KNOWLEDGE CENTER NETWORKING



Linoking to take network protect tion to the next level: Here's how tion to the next seven rises to stave off attacks, memage secu rity contractors and enforce security for telecommuters, who might be your net work's weakest link. Stories begin on page 35.

-----DALINE EXCLUSIVES . WWW COMPLETERWING D COM-

Ask the Experts: Questions about national security O QuickLink 4 Quiz: How secure are your ramote workers? O QuickLink 4300 Shark Tank: Sharky's network security tales: © QuickLink 43501

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300 N ZEER RD MN ARROR HT 48183-1553

Sears Plans to Outsource Part of IT Infrastructure

duce costs, improve mancino

Other major initiatives focus on point-of-sale systems and merchandising applications

BY CAROL SLIWA Sears, Roebuck and Co. in March plans to strike a deal to rial portion of the technical infrastruc ture that its IT de-

partment currently The outsourcine decision is one of several key IT deals that the retailer plans to finalize early this year to help re-

and drive up sales. CIO Gary Kelly disclosed at the National Retail Federation conference

Outsourcing a big chunk of the IT infrastructure - a decision that Kelly acknowledged is "hope - will have an impact not only on technology but also on the Sears IT personnel who

for the customer. support it. Kelly said about

270 of the company's 1,160 [T staffers currently manage the systems that the company plans to outsource

We don't know how many of them will retrain with Sears, how many will work with the new company. That's yet to be determined," Kelly said. *Usually, the company that acquires the contract to own and operate the infrastructure bires some portion of the people that do the work

> That's what happened at Sears, passe 14

Users warv as IBM.

Novell, Sun pursue use of OS on desktops BY PATRICK THISTOPPAN

Miami-Dade County's government operations have around 15,000 users, and the county's IT officials would love nothing more than to cut licensing costs by adopting a Linux "We're all looking for some-

thing that will work as well (as Windows] but doesn't cost as much," said Gary Grave the Florida county's systems sop port manager. But Miami-Dade isn't ready to risk interoperability and productivity limitations by taking the desktop Linux leap. "We're going: to let the big people try this

out first," he said. Some of the "big people" Gray will be watching are IBM and Novell Inc., which have acknowledged plans to adopt

Big Vendors Lead Leap to Linux Linux on the desktop internal ly, and Sun Microsystems Inc. which has already done so.

IBM has confirmed the authenticity of a recently leaked memo written by CIO Rob Greenberg detailing interest in movine IRAG, work force to Linux-based deskrops by the end of next year. And Novell plans to move

Linux, page 16

Merrill Eves Virtual SANs

IT managers seek more control of data

BY LUCAR MEARIAN IT managers at Merrill Lynch & Co. are weighing a multimillion-dollar project to deploy intelligent switches that could virtualize the brokerage's storage-area networks

and give its technology staffers central control of the data stored on the SANs Having completed the buildout of a second major data center last June. Merrill Lynch is now in the planning stages of the storage-consolidation move, said Mike My-

rick, director of managed storage at the New York-based company. The project still needs to be approved by cur-

Merrill Lynch, page 57

ROADMAP

♥ FIELD FORCE AUTOMATION

your guide to the UNWIRED ENTERPRISE

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The right management can put you in control of your infrastructure, not the other way around.

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So from, maybern. Managing ordermed companies have Uncertier inflatationary immediates them is so use a consider of your inflatationary so you can be more resorrest to bississes. With automation and esti-haling capabilities browned to high order inflatationary and esti-haling capabilities browned to the high control costs and empower you to do more with less Uncertain above layour inflatationary and to a companies promise are extended in the substance of the standard of the

Computer Associates

2003 Computer Associates International, Inc. ICE/ All notes recovered





IN THE MANAGEMENT SECTION The CIO as Chief Communicator IT leaders need public relations and marketing skills to position the IT organization as being on the ball and contributing to business strategies. Page 31



01.19.04 IN THE TECHNOLOGY SECTION

Storage Virtualization Gets Down to Business Users like Tony Catone (left) of the Philadelphia Stock Exchange have learned that the unified view of storage resources provided by virtualization can r application downtime and save money. Page 27

NEWS

- PeopleSoft and a J.D. Edwards user group fire more verbal salvos at each other. 6 Dell adds a pair of Gigabit
- Ethernet curitches to its nesworking product line. 7 District of Columbia signs a
- software deal with Hyperion. the latest move in a \$71.5 million IT revame. 7 EDS is denied in its attempt
- to convince a Texas court to dismiss a shareholder's suit. 10 A German retailer issues in
- own RFID edict to suppliers. much like the approach being taken by Wal-Mart. 12 E-mail phishing scams draw
- the attention of IT users and 12 The IT outsourcing debate will likely be key in shapin the merger place of Bank One
- and LP Morean Chase 14 A medical insurer plans to give 19,000 doctors Dell desktop PCs to reduce paperwork or handhelds so they can write e-prescriptions

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OPINIONS

- On the Mark: Mark Hall learns that there are *SANs for the masses" and that people are the cause of 35% of the incidents that result in crashed, frozen broken and inaccessible storage systems
- 22 Maryfran Johnson argues that despite many efforts to ston it I impr will be the most exciting technology to watch in 2004
- 22 Pimm Fox says EMC's acquisition of VMware may be a very good deal for IT users.
- 23 Thornton A. May offers a three-step program to improve vendor-relations management
- 29 Nicholas Petreley predicts that 2004 will bring a networked computer revolution and the decline of Internet Explorer
- 33 Bart Perkins reminds you not to rush into offshore outsourcing. You need to make sure you're sending work to locations that offer the best combination of cost and service.
- 58 Frankly Speaking: Frank Hayes wants IT managers to redefine programmers' jobs to help the business side.

23 50

DEPARTMENTS/RESOURCES At Deadline Briefs News Briefs

Company Index How to Cootact CW. Shark Tank

KNOWLEDGE CENTER NETWORKING

Souped-up Security Traumatized by a year filled with malicious code outbreaks, network managers

are eager to bolster security and offload some chores to managed security service providers. This special report will help you manage the contractors and close the



- 38 Farming Out IT Security, Outsi ing IT security functions can succeed users say if was choose the right services and ask the right questions.
- 40 Security and QoS Unite. Mergins the two technologies gives users multiple lines of defense against network attacks. ONLINE: A glossary of terms related to network urity and quality of service O Duicht int 43453

- which might be your growing population of telecommaters ON DE How secure access by remote workers? Take our online quiz to find out. O QuickLink 43691

42 Security Begins at ome. Your network

is only as secure as

your weakest link

- 43 The Almanac: Security problems at Windows-based ATMs and a short history of selecommunications devices are among the topics covered in this eclectic collection of network security news.
- 44 QuickStudy: A primer on how to tell if you're a target of "phishing," the latest tactic in identity theft. When thieves no phishing. they send fraudulent e-mail messages that try to lure you into revealing personal information.
 - 48 Opinion: Honeypots are sticky little traps that can help you quickly learn if your network is under attack. And they can help you determine the nature of an intrusion and the possible fixes, says columnist Mark Hall.

Ask the Experts. A of network security panel of security protopics, including ds approvers rosus access points readers' questions on and worms, from our their occanizations

st attack. O DuickLink 43754

security experts O QuickLink a3960 The Future of

ment vendors to become the future purveyors of security services. Why? Because they have key advantages over security pure plays, says Ron Moritz, chief security strategist at Computer

O Duicklish 43500

NASA Makes CIO More Independent

NASA announced that it's creating an independent office of the CIO as part of an internal recry stration. The space agency said the change gives Patricia noton, who was named CIO last March, more responsibility for managing its IT investmen Previously, the CIO's res ties were limited to setting technotices policies MASA said

Novell Indemnifies SUSE Linux Users

ovell inc. completed its heren of SUSE Linux AG and said it will nity SUSE's upers against any damages resulting from The SCO Group Inc.'s anti-Linux can paign. To qualify, users must buy SUSE Linux Enterprise 8 along with a papport contract and an vance plan, Nevell said. Meanwhile, Open Source Development Labs Inc. in Beauwron, Ore., said

it's setting up a \$10 million de-Sun Reports Loss, Small Drop in Sales

Sun Microsystems Inc. reported a net loss of \$125 million for its 26. Revenue was \$2.89 billion, own 1% year over year. Sun dis used plans to cut 300 jobs by s to a plant in Oregon. But CEO Scott McHealy said the company is "not changing our strate-ov in the op-to-market secon."

Short Takes

NOKIA CORP. said it will outurce its desktop systems and help desk operations to IBM in a five-year deal valued at about \$250 million. . . . The U.S. Envinmental Protection Agency earded a nine-year, \$700 mil-

AT DEADLINE PeopleSoft, User Group Continue Verbal Jousting

Ouest details PeopleSoft's demands: vendor questions commitment claims

THE PROPERTY'S BOTHSON

PeopleSoft Inc. and the Quest user group continued last week as officials from the two sides fired more verbal shore or each other in the wake of the software vendor's decision to withdraw its support for several Owest conferences Ouest, an independent

group for users of J.D. Edwards & Co.'s applications, detailed a list of conditions that People-Soft had sought in return for its participation in a conference held last week in Chicago and others scheduled for this month and February, People-Soft acquired J.D. Edwards last

The conditions included a demand that PeopleSoft be allowed to review messages from the user group to its members before they were

distributed. Quest said Peopleclaim that the company would support its worldwide use conference, absolve People-Soft of any legal or financial obligations related to existing commitments, and return cus tomer marketing data that J.D. Edwards had shared with the user group. Quest's board of

directors rejected all but the last of the conditions. *As an independent user group we believe it is nec-

essary to maintain the right to com municate with members frequently and in an open, unedited manner," said Ouest President Barbara Schmit in comments that were made at the Chicago conference and posted on the Lexington, Ky.-

based user group's Web site.

added Schmit, who is CIO at Computer Network Technology Corp. in Minneapolis. PeopleSoft spokesman Steve Swavey acknowledged that the

company initially committed to support the Chicago show and three other Opest events. But, he added, Quest falsely support its global and regional conferences through 2006 MORE NEWS

Quest's board felt than

metments made by LD. Ed-

wards "should be followed

through on" by PeopleSoft,

"We just did not offer to users to bein freed of want Owest to convey that PeopleSoft is obligated when it's not," Swasey

said. "We want the message to be honest." As for the customer data. PeopleSoft wanted its use discontinued because the information is outdated, according to Swasey. *We told Quest on Dec. 15 [that] they had seven days to comply, and they didn't. At

that point, we said, 'You don't have a relationship with me The rift between PeopleSoft and Quest became public two

weeks ago [QuickLink 43921]. John Mateiski, the city of Orlando's deputy CIO and a Quest board member, last week said that the user group "will continue to proactively try to re-establish a relationship with PeopleSoft. But until they're receptive to our over-

The loss of PeopleSoft's support may have been un idable, said Mitch Myers. vice president of operations at FW. Murphy Instrumentation & Control Solutions in Tules. Okla. "My guess is that People Soft has their own user group model," he said. "They can't afford to add another. Dave Hyzy, director of IT at Benderson Development Co. in Buffalo, N.Y., resigned from Quest's board last month over its dealings with PeopleSoft.

after just II days as a member. Hyzy last week said the user group's directors seem more interested in preserving their positions "than in working with PeopleSoft to resolve this rift in the heat intercess of the members." O 44113

Dell Adds Gigabit Ethernet Devices to Switch Line 24-port switches

can support up to 3,500 end users

OY MATT HAMBLEN Dell Inc. today will appounce two Gigabit Ethernet switches that are the highest-performine devices it has rolled out since entering the networking market in September 2001.

The 24-port PowerCunnect 6024 and 6024F are designed to support petwork connections for up to 3,500 end users at small or midsize businesses, said Ulrich Hansen, a senior product manager at Dell. The switches can also be used to aggregate multiple switches or connect servers in large data

In addition to being Dell's largest switches, the new products are its first Layer 3 devices. Hansen said the switches will ship early next month at a list price of \$3,499,

which includes a three-year service contract, redundant power supplies and built-in management software. Josh Vinyard, IT manager at Diab Inc., a maker of compos-

ite materials in DeSoto, Texas, has been testing the Power-Connect 6024 and plans to buy the switch to keep up with the escalating demands on his octwork. "Everything in manufacturing is coming online with networkable equipment," be said. "We're moving into a

world where you have to think shead, buy smart and pray your investment isn't obsolete in two years."

Vinyard said the price of the switch is low enough that he had to call Dell officials to make sure it was right. He predicted that his costs might be thousands of dollars more to

get similar hardware from other vendors once support costs and management software are

"If it weren't for Dell there would be no way I could even think about growing our network to meet the needs of our user base." Vinvard said. Dell is six to nine months behind the switching products road map it announced when it entered the market said Mark Fabbi, an analyst at Gart ner Inc. "Dell found networkine is harder than ther hought," Fabbi said, "They ex-

pected to sell more than they did and expected to move from Layer 2 to 3 more rapidly than they could," But he added that to Dell's credit, it also has taken more time on development than

originally intended to bulk up its technical and support expertise. O 44063

District of Columbia Melds **Budgeting for 68 Agencies**

Software deal with Hyperion part of S715M IT revamo

BY GAN VERTON The District of Columbia ow will announce a plan to deploy an integrated suite of applications that for the first time will enable all 68 of its government agencies to conduct performance-

based budgeting and to prove that forecast savings from IT upgrades have actually been The \$6 million deal with cludes three software modules, hardware and mainte-

Sunnyvale, Calif,-based Hyperion Solutions Corp., which innance costs, is the city's latest move in a five-year, \$71,5 million modernization program that promises to save the gov croment more than \$60 million anomally. The district plans to complete the rollout of three Hyperion financial modules by September, in time for the start of its fiscal

budgeting, perforing and analysis, said Sandy Lorer director of key systems for the district's chief tech-

nology officer "Today, it's a pretty onemus spreadsheets and floppy disks," said Lazar, "With the budget module all of the agencies will

formulate their budgets online automatically check account balances and conduct what-

The three modules cover

previous processes I you wonder how any thing got done SANDY LAZAR

of analysis, and then submit their budgets to a central repository," he said, "For the first time, we'll be able to take a really strong look at performance across the city.

But setting to this point has been a long slog dating to 2001. That's when the groundwork the plan and the estimates for the peturn on investfor what the city calls its Adminis trative Services Modernization Program (ASMP). The program is a

nearly owen, book

aged by every city

massive FRP effor: that by 2006 will have completely reinvented

agency - including procure ment, human resources, rovroll, time and labor budges and planning, pension and benefits administration, and property management

Worst to First But it's only now that the distruct has been able to take a corious look at deploying the next reperation of business applications, said Suzanne Five years ago, we were probably among the five worst municipal organizations in the nation in terms of IT infra structure," she said. And that's not an exaggeration, considering that at that time the district's IT infrastructure amounted to 8 000 sotoms tale physics, no WAN to speak of a Web site with a paltry 500 pages and an e-mail system

that could handle no more than 200 messages per day The ASMP effort, said Peck "started the inexorable journey from worst to first." doy the district has 400 WAN

200,000 pages and the foundation for an integrated ERP in-

real-time transactions.

But success has come with ire share of lessons learned. 'Don't start something of this metrics monitoring agency

agencies are performing and what savings are being gained

she said. "Middleware was also a great technology advance for us," added Peck. "This allowed us to take the very best software and make the very best competitive deals while have ing the advantages of tightly

Shareholder Suit Against EDS Can Proceed, Court Rules guilt, but rather a conclusion

Former execs allegedly inflated earnings

A U.S. District Court in Texas last week denied a motion filed by Electronic Data Systems Corp. to dismiss a classaction shareholder lawsuit alleging that two former top executives knowingly misrepresented company earnings and the health of the multibilliondollar Navy/Marine Corps In-

trapet contract In a 27-page ruling, District ludge Leonard Davis concluded that lawyers for the FDS shareholders presented "strong" evidence that former EDS Chairman and CEO Richard Brown and former Chief Financial Officer lim Daley misrepresented earn ings and facts related to the troubled N/MCI contract. That, alone with other fac-

tors, allowed the company's

stock to be traded at falsely in flated prices, according to the

"Having established that defendants knew of problem that existed on the N/MCI contract, the court concludes that plaintiffs have pled sufficient facts to show that defen dants made misrepresenta tions or omissions to investors," wrote Davis, "The

court also finds a strong inference that defendants were extremely reck less in continuing to recognize any nevenue on the project when they were allegedly pursuing a tactic of intentionally providing goods that

did not meet contract

that the plaintiffs have a legitimate case to pursue. Kevio Lightfoot, a spokesman for Plano, Texas-based EDS, said the company is "clearly disappointed with this, but not completely surprised by the judge's ruling." He said EDS "continues to believe that

the allegations against it are without merit," adding that the company still plans to defend itself viror-



recifications."
The ruling isn't a finding of "extremely recides."

ush (Onick) ink 423481 The shareholder complain stems from a Sept. 18, 2002, EDS announcement that it ex

locations, 30,000 Integrated

lines, a Web portal that boasts

Services Digital Network

pected its third-quarter 2002 carnings to fall short of the company's prior guidance by approximately 80%. A week later, securities analysts discovered that EDS hadn't disclosed certain financial oblications related to the sale of "put" contracts on its own stock, which would require

the company to pay \$225 million. As a result, the price of EDS's stock tumbled, and sharebolders lost about \$11.8 billion in value

Last May, EDS reported a quarterly net loss of \$126 millioo, blaming it on "problem contracts" and a whopping \$334 million pretax loss stemming from difficulties with the N. MCI program [QuickLink

383721. **© 44087**

Capital Plan

on Budget and plants

frastructure that can handle

Lessons Learned

magnitude without spectacular leadership," said Peck. lo addition. Begin with benefits realization before you do any implementation of any kind," she said. "If you want money for an instistive, you have to show what you're going to per back from it " And with 3,500 performance being integrated into the Hyperion scorecard module, city managers have a granular view of exactly how

interrested coffeenes" @ 44120

Microsoft Extends Win 98 Support . . .

Microsoft Corp. dropped a plan to end support for its Windows 96 ing systems as of last Friday and said it will continue to provide telephone help and sec rity updates until June 30, 2006. The company said it made the ion in reso onse to reco from users and to bring Windo 96 Second Edition in line with the seven-year support life-cycle

. And Updates Integration Tools

In other product naves, Micro ased an upgrade of Window rices for Unix. a set of toxic for integrating Unix and Windows systems. The company said Version 3.5 supports fast totwork File System perfornce and can be download: at no cost. The software, which also can be sesed to move their s, previously cost \$99.

Oracle Solits CEO. Chairman Positions

Oracle Corp. said CEO Larry Ellison is handing ever his position as chairman to Jeff Henley, who will give up his job as chief financial officer once a replac is named. The change doesn't affect Ellison's man duties, Oracle said. It also geve dent titles to Safra Catz. who rams global operations, and Charles Phillips, who ha ding and consultion

HP Boosts Effort To Enforce Patents

rwiett-Packard Co. said it ectual property rights ough the company doesn't nology users. has set up several lice no aimed at other war

MARK HALL . ON THE MARK

Pricey Fibre Channel SANs Make No Sense

because they need a "let's go to Mars" budget. They're complex to deploy and maintain, requiring time and skills seldom available in anything but big IT operations. "The SAN industry has been very successful telling us a compelling story," observes Zophar Santé, vice president of market development at IP SAN provider SANRAD Inc. in Alameda, Calif. "But the industry hasn't said it's easy and cheap." That's forced initiator in the IP SAN. • The IT masses most companies to stick with the inefficiencies of direct-attached storage or inare certainly growing in numbers, espestall pokey network-attached storage cos-

tems. These systems lag IP SANs in performance by 40%, claims Mark Worthe. director of storage marketing at Xiran, a division of Simple Tech Inc. in Santa Ana. Calif. Neither vendor pretends that IP SANs compete with Fibre Channel for speed, "A Fibre Channel SAN is reliable and has great performance," Santé admits. "But it's not about replacing IP SANs. It's about delivering SANs to the ses." Both vendors will cater to the IT proletariat with new products. SANRAD this week begins shipping its V-Switch 2000, which can link up to 256 servers, sharing as many

as 68,000 storage volumes. It's available now and everfor \$12,500. And late next month, Xiran will ship its DPA 1400 card, which fits into a server's PCI slot. The card virtualizes the directched storage so it can be shared in on IP SAN The \$750 card is packed with 250MB of memory and can be used as either a target or

cially overseas. And they're apparently a ted rough on the storage systems. That's what's behind the expansion of Armonk, N.Y. based CBL Data Recovering Tech-

nologies Inc. into Brazil by the end of next quarter and into Russia by year's end. That will make nine countries plus the U.S. home to CBL's labs, where users can send their nonworking, unaccessible disk drives, optical devices, CD-ROMs and even floppies. "We don't do mainframes. But other than that, we can retrieve the data," says CEO Bill Margeson. CBL technicians detect the signal on a disk that determines a hir's

0 or 1 status, translate everything into hexidecimal code, re-create the file structure and data, and copy it all to a new; safe medium and return it to you. In more than a decade of doing this work Marpeson has noticed some trends Every year or a new generation of drives hits the streets, "an Ednal or two will

come out." And this year? GMR drives, according to

making the data stored on them impossible to read. Another pattern he's noticed: 65% of the failures are hardware-related, and 35% are people-related. How so? "People doo't know what to do when access to data is taken from them," Margerson says. They can't surrender." What FF adminst often do is to continue to work on the problem even after the disk drive starts clicking, "If you hear a 'click-click' sound, you might as well give up," he advises. If you send it to a CBL lab, techs will diagnose it for free, but the data on 15% of the media inspected can't be saved. If CRI can retrieve the data, it'll cost you \$100 per hour. To fix a RAID system might see you back about \$2,000, which will seem cheap when the data shows up on users' monitors once again. * FileNet Corp. in Costa Mesa, Calif., and McLaren Software Ltd. in Glasgow, Scotland, tomorrow will announce plans to tightly integrate FileNet's P8 content management engine into McLaren's Enterprise Engineer for the process industry. FileNer said it will announce other software-integration deals for manufacturing and supply chain users in the coming months The upgraded version of Enterprise Engineer will ship in Q4. . If you're in-

Margeson. Seems the "smart" technology inside the Gunt Magneto-Resistance

head devices occasionally gets corrupted.

ware Inc. in Gloucester, Mass. The ungrade, available Jan. 31, adds a logistics management feature as an online service to its current multilanguage software that handles sourcing issues from the requestfor-quotes stage through customs and arrival in your warehouse. Its key feature boasts CEO Sue Welch, is ease of use. It requires almost no training can use it. Even the masses. O 44088

volved in linking your procurement spe-

cialists with small manufacturers overseen

Stones Version 1.3 from Tradestone Soft-

that lack IT resources, consider Steppin

Security Flaws Put VoIP Systems at Risk Oulu in Finland. The flaws exist in VoIP products that sup-

The disclosure last week of critical vulnerabilities in voice-over-IP products from several major vendors shows why companies need to pay close attention to security when deploying IP telephony technologies, analysts said. The flaws were discovered by Britain's National Infrastructure Security Co-ordination Centre using a test suite designed by a group of researchers at the University of

BY JAHUMAR VIJAYAR

port the H.323 protocol, which is used to exchange audio and Products sold by Microsoft Corp. Cisco Systems Inc. and Nortel Networks Ltd. are amone the affected software and the risks to users include malicious backers taking con trol of systems, according to an advisory issued by Internet

Security Systems Inc. (ISS).

Neel Mehta, a security researcher at Atlanta-based ISS. said the vulnerabilities are the result of coding errors in individual H.323 implementations The flaws in Cisco's Internetworking Operating System (IOS) software present the higgest concern because of its widespread use in Internet routers, Mehta said.

In its own advisory, Cisco. said all products that run IOS and support H.323 packet processing are affected by the

flaws. Several other IP telephony products are at risk, even though they don't run IOS, the company added. Cisco released patches for all of the affected devices. Microsoft warned users that

the H.323 filter in its Internet Security and Acceleration Server 2000 software is vulnerable and gave the flaw a "critical" severity rating. Attackers could use the secu rity hole to take complete control of compromised systems, said Microsoft, which also

released software patches.



frame is realistic. "but if it on?.

we'll back off." He said that he

recently met with suppliers, and

They were very positive in what

"I don't think they were just

doing that - I don't know what

the technical term for it is - we

call it 'sucking up,' "Scott

added, his comments great

by laughter from many of the more than 2,000 retailers and

dence. "But I think many of our

suppliers are right in the midst

RFID is "a very important inno

vation" and that benefits will

be seen over the long torm -

mately will allow retailers and

the business and do a better

job of keeping items in stock

so they'll be able to pass cost

not in 2004. He said RFID ulti-

iers to drive costs out of

Scott told the attendees that

of it and involved." he said

German Retailer's RFID Effort Rivals Wal-Mart's

Inter at the store

from the back room

RFID tags have a

distinct advantage

over har codes he-

plastic. Each tag contains an

to computer systems.

Metro Group asks suppliers to tag pallets and cases by Nov., tests item-level tagging

BY CAROL SLIWA

AL MART STORES only major retailer to issue an RFID edict to its top suppliers. Metro Group, a German resailer with more than 2 300 stores in 28 countries, an

nounced here last week that it has asked its leading suppliers by November to start affixing radio frequency identification (RFID) tags to the pallets and cases they ship to 10 cen tral warehouses and roughly 250 supermarkets and depart-

Wal-Mart's top 100 suppliers face a lanuary 2005 deadline for compliance with its dispersion for RFID-tagged pallets and cases. The Bentonville, Ark. based retailer's rollout will start at three Texas distribu-

tion centers that service about 150 stores [QuickLink 42676]. But while all eyes in the U.S. retail industry tend to focus on Wal-Mart, those interested in early results might want to look at the pilots Metro has rtaken in Europe. In April. Metro opened a socalled future store in Rhein

Getting real-time information about tagged cases and products can belp retailers reduce the number of out-ofstock items and, overall, reberg. Germany, to pilot a numduce the inventory in their ber of technologies, including supply chains. Metro's RFID

a wireless network to an *information dashboard' where employees can track the RFID and its in-store tests tagged pallets, items and cashave gone beyond the pallet es. Mierdorf said.

A second Metro pilot ex-Metro does item-level rostends all the way back to the ging on razor blades from manufacturer, so the retailer Gillette, cream cheese from can trace goods from the place Kraft and Pansene shamps they're made to the point of from Procter & Gamble, CIO sale. That pilot is being done Zygmunt Mierdorf said the with a popular German fashion company tags products, cases brand, Gerry Weber, Reusable and pallets at its distribution tags are affixed to garments center and most the and read at Metro's central goods through read warehouse and two of its Colo. ers at the center and ria Kaufhof department stores.

where the clothes are further when the items arrive tracked on shelves and at and when they move checkout stations A third pilot is due to start to the shopping floor. soon with Procter & Gamble Co.'s European division and Metro's wholesale Cash & Carry stores for business cuscause they can identitomers, according to Mierdoef.

fy a container's con-The pilot will start with paltents without line-oflets and cases and eventually sight scanners, and the waves move to the item level. As opthey emit can pass through maposed to the first two pilots terials such as cardboard and which were done for research purposes for supply chain and antenna and a microchin that inventory control plus thefe transmits information about a protection, the third pilor is targed item to a reader which being used to determine the converts the radio wayes into a business case, Mierdorf said. digital form that can be passed Mierdorf declined to disclose costs, savine only that he wants to gain a clear understanding of the benefits and implications on the supply chain. "I don't want to run into bag surprises when we book a hundred suppliers into the

Wal-Mart Takes 'Tough-Love' Approach With RFID Directive

for the remainder of the 108 Wal-Mart Stores is taking a distribution centers and 3 000 "lough-love" approach on RFID stores to be disclosed later, on with the top 100 suppliers that a rolling basis, lo supp a rowing basis, to suppliers through Wal-Mart's RetailLink are being asked by January 2005 to ship pellets and cases extremet salv Scott sad he thinks the time

H. Lee Scott, president and CEO of the retailer, send lest week during a keynote address at the National Retail Feder tion arrust conference here that there's pressure to move the suppliers to RFIO "but also an understanding that we're

neen, it's not like we're going to out doing business with

Only Wel-Mart's top 100 ers face the January 2005 deadline that the reta by the start of 2006. Wal-Mart lete last year informed its too. suppliers during a meeting in Arkansas that the RFID refout will start at its three Texas distribution centers, servicing about 150 stores, and co

Information transmission

glass, metal and liquids, and

accuracy rates aren't always

Mierdorf said his company

ments that lie flat but only

garments. He said that will

gets 100% read rates with gar

96% read rates with hanging

have to improve for the com-

Micrdorf said companie should run their own pilots

pany to rely on the technology

and trials to determine the impact on and potential benefits

for their own businesses. "We

can't talk about the individual

100% for other materials

Using RFID technology isn't without problems. Mierdorf said that standards and bandwidth issues have yet to be resolved, and the cost of the tags must come down from their vantage of RFID current 25 to 50 cents aniece

But no matter how many eilots Metro does, one fact reproblems still occur involving mains clear: Item-level tagging won't be done on a mass scale anytime soon, Metro CEO Hans loachim-Korber said be expects it will take at least a decade before RFID is univer sally accepted and applied. "We don't care about [that] We have to start," he added

the problem of RFID data management.

Metro Group's RFID Timeline

 Opens "future store" in Rheinberg, Germany s and cases are shoped with RFID tags, and lags are affixed to Geletic razor blades, Kraft cream cheese and Proctor & Gamble shampoo

pilot with Procter & Gamble, from to ship pallets and cases with manufacturing site to distributing RFID tags, all Germa center to Cash & Carry stones houses to be RFID reach

· Williams packages to 10 central warehouses and 250 stores

network "he said

to its distribution centers using the lechnology.

not trying to hurt them either "If they just can't do if, I

them "Scott said

set for compliance, but the rest have been asked to follow suit lelly across the country. Plans call for the time forme

savings on to consumers. benefits for company A, B and C. They have to find out "he said, adding that companies will have to change their internal processes to take full ad-

> "In the end, it will replace the bar code." @ 44114 BATA GI IIT

· Starts end-to-end pilot with Liess on comments. Imm many facturing site to central epishouse to hep-department stores



IT, Vendors Scramble To Combat Phishing respond to such scame are also beginning to emerge

E-mail scams proliferate, target personal data

MY JAIKUMAR VIJAYAN THE RAPID GROWTHof so-called phishing scams has left IT managers, industry groups and technology yeadors scrambling to deal with the e-mail fraud problem. A large part of the effort is focused on consumer awareoess programs, cross-bowles law enforcement activities and improvements in information

sharing between companies

and services that could help

companies better detect and

and authorities. But new tools

For example, Cyota Inc., a New York company that offers banks, is beta-testing an antiphishing service that uses a network of probes seeded around the Internet to detect scams, said CEO Nafteli Bennet. The technology could also help users apply countermeasures, Bennet added. He said

he expects the beta-testing to continue for several months Bath, England-based Netcraft Ltd. on Jan. 5 Jaunched a service aimed at detecting and tracking Web sites involved in phishing scams. Envisional Ltd., a Cambridge, Englandhased provider of antinipacy

services, added antiphishing capabilities to its offerings in

December Brightmail Inc. in San Francisco and Cyveillance Inc. in Arlington, Va., have also announced services designed to stop phishing scams. The goal of phishing is to fool people into parting with personal information such as their credit and drives to cense and bank account num bers. The schemes typically involve e-mails with messages return addresses, links and branding that appear to come

of their operating philoso

phies, so there could be a cul ture clash between the two or-

sanizations." Eckenrode said

outsourcing vs. insourcing is-

sue. William Harrisoo Ir., LP.

head the new company, but he

Dimon in 2006 while remain-

ine as chairman. It's not clear

Chase CIO John Schmidlin

whether Adams or LP. Morean

will be the IT chief. Both have

been named to serve an the

bank's executive committee

"A lot of those decisions

haven't been made yet on the

structure of the organization,"

a snokesman for LP Mores

ther IT-related comment

Chase said. He declined fur-

plans to give up the CEO job to

Morgan's CEO, initially will

Management hierarchy decisions are expected to affect the

from reputable companies Last week, for instance Citibank Inc. and London based Barclays Bank PLC warned customers to ignore

The consumer has become the weakest link in the trust chain. POBERT GARIOUE. CHEF INFORMATION SECURITY OFFICER BANK OF MONTREAL

messages unring them to go to spoofed Web sites where they would be asked to provide sensitive data. Phishers have also some after customers of eBay Inc., PayPal Inc. and oth-

Robert Garigue, the Toronto-based chief information se curity officer at Bank of Montreal, said that when the bank's customers were targeted by a recent phishing scam, it worked with the Royal Canadi an Mounted Police and the FBI to quickly sbut down a bogus Web site hosted by a service

provider in the U.S. He said cooperation and information sharing are crucial to stemming the phishing problem. Garisue thinks phishing is

on the rise because increased security measures are making it hander for attackers to directly breach enterprise networks. "The consumer has hecome the weakest link in the trust chain," he said

Dave Jevans, chairman of the recently formed Anti-Phishing Working Group, said the number of unique phishing scams has grown to about five per day. That companys with an average of I S attacks daily before the holiday season, said Jevans, whose organization has more than 60 members, in-

cluding financial services companies and IT vendors Companies whose names are used in seams can incur "substantial operational costs" if they have to change passwords and PINs for thousands of customers, said Garrers

Inc. analyst John Pescatore. PHISHING PRIMER

To learn more about physiong scams – and the resources available for lighting them read this week's QuokStudy on page 44

Sun Advances N1 Effort With CenterRun Release

BY PATRICK THISODEAU Sun Microsystems Inc. before the end of this quarter plans to release its own version of the CenterRun provisioning technology it acquired last year

Sun officials said last week that the first release won't have a major feature enhanment, but instead will give the provisioning software, which is key to Sun's NI strategy, the look and feel of other Sun products. It will also serve as a bug fix and provide improved

integration, they said. Sun Because the banks aren't exgained the technology when it pected to complete their inteacquired Redwood City, Calif.gration effort unbased CenterRun in August. Meanwhile, Sun's effort to of outsourcing "is simplify data centers received a key user endorsement last week from Blue Cross Blue

Shield of Massachusetts. The Boston-based health care provider is adopting Sun's Java Enterprise System (IES), which for an annual set fee of \$100 per employee delivers an integrated software stack that includes Sun's directory, application and portal servers [QuickLink 41523]. BCBS of Massachusetts has about 3,300 employees. Frank Enfanto, vice president of operations delivery

and information security at the health care organization. said JES "gives us the ability to be predictable in what our costs are and simplifies our software purchases." The alternative was to work with individual vendors and then try to integrate the applications. he said.

Even if Sun's per-employee pricing approach doesn't prompt other vendors to change their pricing structures, IT managers can use it as a bargaining chip, said Stephen O'Grady, an analyst at RedMonk, an IT analyst firm in Bath, Maine. O 4419

IT Outsourcing Could Be An Issue in Bank Merger

The \$58 billion merger an gan Chase & Co. and Bank

One Corp. is expected to generate \$2.2 billion in pertan cost say. ings over a three year period, partly through a consolidation of the banks' systems,

data centers and IT staffs. But an expected debate on IT outsourcing vs. managing systems internally is all but certain to play a pivotal role in shaping the combined compsny's technology direction, according to analysts who follow the financial services industry.

New York-based LP, Morgan Chase, which is buying Bank One, signed in late 2002 a seven-year, \$5 billion outsourcing act with IBM [QuickLink 353881. The agreement transferred the bank's data process ing infrastructure and about

was a key driver for the bank, said Iim Eckentode an

analyst at Tower-Group in Needhom, Mass. J.P. Montan Chase was left with excess computing capacity after the bear market began on Wall Street in mid-2000, he noted

4.000 IT workers and contri

Morgan Chase buy computing

That capability

tors to IBM, and it lets LP.

capacity as needed.

In contrast, Chicago-based Bank One has brought most of its IT operations back inhouse since late 2001 as part of a program that

was championed by CEO lames Dimon and executed by CIO Austin Adams [Onick-Link 253741 The two ban "have some differences in terms

til 2007, the role the \$64,000 question," said Bill Bradway, an ana lyst at Financial Insights in Framtham, Mass. 0 44122



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HPS Is service management solutions let you see how each event offects your services so you can apply your resources more intelligently. You've spending up to 80% of your budget entoletising your center II operation, and tryly indemanding last you or cann't his solution. If you was not to be a service of the control that a service you have been described to a service of the control that a service lets. The with one, well spec it no IDC study, setterplies contents who and Operative software of an analysis of the control that a service lets. The with one, well spec it no IDC study, setterplies contents who and Operative software of management service in the IDC study setterplies contents who are of Operative software of management services.

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ratum on investment gains after implementing OpenYew management software is actived in the industry adultinity (time for task) improved by 54%

If Productivity from for took improved by S4% 49% reduction in time to identify and fix downtime incidents



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SEC May Take Action Against CA

Computer Associates International Inc. said it was notified by the U.S. Securities and Exchange Con sion that the agency is consi ing civil charges against the com-pany over allegations of improper ue recognition. Three of CA's ton finance executives resigned in October after an internal inve on showed that the com

Judge Reaffirms IE Patent Ruling

A federal judge reaffirmed an gust jury ruling that Microso rp.'s Internet Explorer brows nged on a patent held by Eclar Technologies Inc. and the Universi-ty of California. The judge ordered Microsoft to pay \$820.6 million in ges and denied a metion to ed the ruling until the U.S. on a rendere of the nate oft said it plans to appeal

IBM Reports 9%

Revenue Increase IBM recorded \$25.9 billion in over se for last year's fourth quarter, up 9% from \$23.7 billion in the last three months of 2002. Busi-ness from continuing operations reproved in all major regions, with the American showing a 4% se year over year. However, BM said that increase would ve been just 1% at constant profits totaled \$2.7 billion

SAP's Sales Hit by Currency Changes

SAP AG released preliminary re-sults for the fourth quarter, saying It expects to report a 3% decii ar over year in both total revse and new software license s. But the business ap or added that b es would be up by 4% on

Continued from page 1 Sears

Target Corp., for instance. when it signed a major outsourcing deal with IBM Global

Services five years ago. Kelly, who has been CIO at Sears since October 2002, said the company spent much of the past year assessing its IT infrastructure and saw two options to address the weeknesses it found: "remediate it internally or have it out sourced." Sears chose the latter for its desktops, server farms, routers, spice and data

network, decision-support technology and systems that support Sears com he said There's no competitive advantage to having a better e-mail system and a different type of voice or data network." Kelly said, "It's fundamentally a commodity that can be pro-

vided better as a service. However, Sears won't outsource its in-store retail systems or the wireless application and other technologies that support its product-repair service business. Kelly exid the company wants to invest more time in creating systems that will differentiate Sears from its

Kelly said Sears is evaluating service providers for the out sourcing contract and plans to make its decision by early March. The five being considered are IBM Global Services. Hewlett-Packard Co., Electron ic Data Systems Corp., Computer Sciences Corp. and Affil-

iated Computer Services Inc. Sears will continue to have project managers, architects. developers, business analysts and testers to support applications, operations and systems Kelly said. It will also provide direction on the technologies being outsourced.

A survey conducted by the NRF Foundation and Bearing-Point Inc., which was released at the NRF conference, found that 26% of the 57 retail executives polled plan to make outsourcing/offshoring a strategic initiative this year. The top three functional areas they said they would outsource

were application development, interration projects and application hosting. Most said and to increase the focus on core competencies, efficiency

and performance. 'In many cases, in data center and IT operations, the infrastructure itself has to be significantly upgraded before it can be outsourced and turned over," said Scott Hardy. a vice president in Bearing-Point's retail division. He said CIOs assess what they're sood at and then typically adopt a hybrid model, choosing to keep some functions in-hou

some offshore and others "nearshore" in North America Sears is keeping control over its in-store systems because it plans to have a 'new genera-

running on either Windows Kelly. "The issue is going to turn on total cost of ownertion of selling applications" ship," he said.

way to make purchases, regardless of channel. Kelly said Kelly said that within 30 days, Sears will select a point of-sale (POS) application and an operating system that will run

on the 35,000-plus IBM handware devices it started rolling out last year. Sears is also takine bids from third parties to help with interestion Sears' DOS-based

POS systems, which were built to its specifications, will be replaced by a POS application XP Embedded or Linux, said

that give customers a standard In addition to beefing up its enterprise selling systems. Sears will undertake a third major injection that will focus on a new integrated tool for

merchandise, assort ment and demand planning. Sears plans to choose the vendor within 30 days, Kelly

None of Sears' upcoming IT initiatives involve its affiliate Lands' End Inc. which continues to have its own IT operations But Seen plans to retool its systems so that Lands' End customers



Medical Insurer Plans IT Giveaway

Medical insurer WellPoint Health Networks Inc. last week announced a \$40 million plan to provide 19,000 of its contracting doctors with handheld-based e-prescription systems or desktop PCs for use in reducing the paperwork associated with filing insur-

ance claims. Dell Inc. will provide the handhald and deckron hand ware, and Microsoft Corp. will integrate electronic prescription cofrage into Dell's Asian

IT Choices

- Dell Optiplex 6X270 de lesser printer

handhelds as part of the project. WellPoint CIO Ron Ponder said the company, the secondbissess health insurer in the U.S., will offer the packages free of charge to doctors in the states where it has the largest presence: California, Georgia, Missouri and Wisconsin

Thousand Oaks, Calif.-based WellPoint will also make the technology available to its other 150,000 contracting physicians at the discount rate it negotiated with its suppliers. Ponder put the value of the packages at roughly \$2,100 per

doctor, but he declined to disclose the cost that WellPoint is paying for the systems The insurer isn't looking at

the plan from a traditional return-on-investment point of view, Ponder said, Instead, it expects the technology to help make doctors more efficien and, in the case of the e-ore scription system, to potentially reduce medical errors

In January 2001, General Motors Corp. took a similar approach when it launched a program to equip 5,000 doctors who treat its employees. It planned to provide them with handheld computers that included a digital medical

records system and online reference materials. But Dell spokesman Dean Klein said the WellPoint giveaway is the first that the computer maker knows of within the health care industry itself.

Although WellPoint will provide the hardware to doctors, they will still need to bee their own medical practice manage ment software. Ponder said. Barry Heib, an analyst at Gartner Inc., said electronic time getting off the ground"

prescribing will have "a hard without the backing of insurers like WellPoint. But he added that WellPoint may soon find out that not all doctors like the way e-prescrip tion technology works. The company could also face skepticism from doctors who view the free program as way to lock them into one type of application for the long term. But Steve Shihadeh, general manager of Microsoft's health care and life sciences group, said he expects to offer doctors a choice of two applications. Shihadeh added that Microsoft is still negotiating with

e-prescription developers but

hopes to make its choices

within 30 days. O 44116



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Linux

Linux disktops internally," hi

Ulander Sun's desknop soln IBM's interest in a Linux desk top is "just one more endorse-Jown the right space

Skeptical, Yet Fager

Although many users are in terested in sceine what these vendors can do with all musdesktop it will take a lot to overcome their skepticism. desktop alternative that the petitive landscape.

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IBM's Desktop Focus Is on Portals IBM's desktop strategy is to-

cused on a gradual shift to portal technology A Web-based portal to applications residing on a server could be accessed on the desktop by a client running Lin ux. Windows or another operat-

In an interview last month. Scott Hendy, head of IBM's Linux desktop strategy, said real desk top savings come from the server based distribution of applications which can cut total cost of ownership by half Moving to a Linux desistop would also yield cost say

Need Harlington Northern Santa le Corp. sald a Linux desktop afternative "montal Campbell caumoned that the price could be less compelling once support is considered. and he said security may also be a problem with Linux. But he said the growing interest in Linux on the desktop "could be a wake-up call for Microsoft to realize that there may

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But an internal memo that IBM CIO Bob Greenberg wrote in Noversion calls for a lumm-based desktop "Our chanman has chall longed the IT organization, and indeed all of IBM to move to a Linux based desktop by the end of 2006," Greenberg wrote. "This means replacing productivity Web access and viewing tools with open standards hased

FEC. a 40-store operation bised in Reading, Pa. is considering replacing Windows N t with Linux on about two thirds of the company's desktops - the ones used by empleaces who aren't heavily refant en Microsoft applica tions. He's also looking ar-Sun's StartOffice productivity

couvalents

We will look at the FCO Itotal cost of ownership! and make a decision," said Roberts "We certainly think it's a good. attractive plantum?

Trink Guarino, an IBM spokes woman said the memo was meant not as a policy directive at this point Instead she said in was sent as a way to "motivate the iT organization to look at the possibilities of running Linux as the desistop operating system of

choice for all of IBM's approxmately 300,000 employees. But Guanno said, "based on that memo. I would have to say we're considence é In a research note last week

AMR Research Inc. said the IBM momo gave credibility to the idea

But I mux on the desktop clearly faces an uphalt barde Users may be interested but thes're largely unconvinced. TCO a Question

"My personal belief is that the tury is still very much out on the issue of total cost of ownership advantage of Linux

over Windows," said Gordon Wishon, CIO at the University of Notre Dame in Indiana The big vendors' recent moves "bode furly well" for Linux on the desktop, said

of a Linux desiston. "More imme dately, the more suggestion of IBM's dedication will frustrate Microsoft and its partners' efforts to cast doubt upon the corporate surfability of an open-source desittop "AMR saut.

Microsoft Corp officials meanwhile downplayed the memo's sonficence "IRM is an important partner and custome for Microsoft," the company said in a statement, "and Microsoft will continue to work with IBM to deliver high value desiston solohors for both IBM and for its cus-

> Patrick Thibodism and Todd R. Weiss

The growing interest in desktop Linux1 could be a wake-up call for Microsoft.

JEFFREY CAMPAGE OF

Christopher David the chief technology officer for Arlington County, Vo. But he said it still doesn't wase his concerns. David worney about interorcrability with FRF and CRM applications as well as backend systems. Rather than tak me the Linux desktor roune. the county has embarked on a tether" his workforce from their desktops and give them access from any location Mile Taylor, CIO at field Pacific Shipyards Corp in Scattle, also likes the portal stratory. Taylor plans to him 450 PCs in the next fee. months and estimates that he

could save \$20,000 by moving to Lanux. But training people on a new system would quick ly absorb that savings, he said The portal approach would genuinely lower support costs. as opposed to just making a cheaper operating system manable. Taylor said.

O 44121 Todd R. Weiss contributed to

this report.

be marketplace alternatives? Harry Roberts, CIO at Boson's Department Store LinuxWorld 2004: Same Show, New Linux Directions

As thousands of enterrose D respect has and to the Law additional Conference & Expo in New York this week, there's more on their minds than using Linux for established tasks such as consolidat ing servers, improving security and lowering costs. Lt Fred Wissing application

development services supervisor for the New Jersey State Police in West Trenton sad he's sending several members of his iT team to the show, which begins formorrow at the Jacob K. Jawits Convention Center, so they can lind new ways of using Linux within the IT systems of the state policy.

Tive been wanting for a long time to built the tripper on the desktop" and use Linux for all norkers to do ther jobs. Wissum Said The numbers he said in that some software vendors are still using old programming fanguages and haven't made the changes needed to port their anphoations to Linux. Specifically, document management systems. and case-tracking applications used by the state police aren't yet

ready for the open-source operal ing system, according to Wissing My people are going to be there with a mind set of finding additional ways to leverage Linux here," he said explaning that they would be looking for applicahons to help make then I may in-

frastructure even more robust and linding others to replace Most back and server jeho-

structure in the department is a

ready running Linux coerating systems from SUSE Linux AG or Red Hall Inc., he said, including database and application server software

Ten Kuchlein information secvices director at Clarity Payment Solutions inc., an electronic pay ment systems processing compa ny m New York, is in the midst of a project to move from an existing system of Red Hat 7.3 on letel hardware to the new 64, he STISS

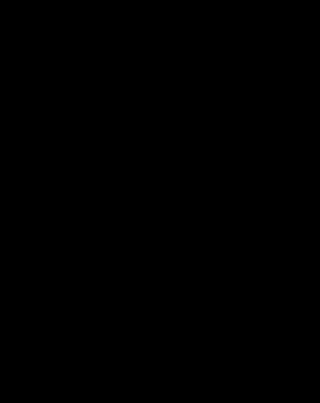
ALSO AT LINUXWORLD

Linux OS on IBM's PowerPC heróware. Clanty is first installing the hardware and software into its disaster recovery site to do lesting and configured it will be or move its production debit-card processing systems over to the

new equipment, he said "We're arring to have the test stuff in by March or so and replacing all systems by 2005 Kuchlein said. "The deal is portly

No one from Clouby will attend LinuxWorld because the company has gotten the information it needs through its established relationships with Linux vendors. Kuchien said "They'd be preach no to the chor," he said. "We've

been very happy with Linux For us at this particular time, we know what we want to do - Todd R Ween



Continued from page I

Linux

its 6,000 employees to Linux desktops Vice Chairman Chris Stone said last week We're doing it. We're moving all of our employees to using Linux desktops internally," he said. A Novell spokesman said there's no timetable for the move, calling it "a long-term, logical progression

Sun, meanwhile uses its Linux-based Java Desktop System internally and started selling it late last year. Peder Ulander, Sun's deskrop solu tions marketing director, said IBM's interest in a Linux desktop is "just one more endorsement, or acknowledgment, that we are probably headed down the right space."

Skeptical, Vet Fager

Although many users are interested in seeing what these vendors can do with a Linux desktop, it will take a lot to overcome their skepticism. Still, users are eager for any desktop alternative that the vendors may bring to the com-

petitive landscape. Jeffrey Campbell, vice presideet of technology services and CIO at Fort Worth, Texas-

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JEFFREY CAMPBELL, CO BURLINGTON NORTHERN SANTA FE

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testing and configuring. It will be-er move its production debit-card processing systems over to the new equipment, he said. We're aiming to have the test

stuff in by March or so and replacing all systems by 2005." Kuchlein said. "The deal is pretty No one from Clarity will att

LinerWorld because the compeny has gotten the information it needs through its established relationships with Linux vendors. Kuchlein said. "They'd be preach me to the choir," he said. "We've been very happy with Linux. For us at this particular time, we ob of those we tarke wo

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IBM Plans to Resell InfiniBand Switches

BY LUCAS MEANIAN IBM last week said it has signed a five-year agreement to resell infiniBand switches for

use with its servers and storage devices, a move that could boost the once-touted high-

IBM plans to integrate Topspin Communications Inc.'s line of switches with its eServspeed interconnect technology. | cr systems and TotalStorage

disk and tape products. The combined offering will be aimed at high-performance computing and database clustering applications as an alternative to setups based on Gigabit Ethernet and Fibre

Mountain View, Calif-based Topspin currently sells 4X InfiniBand switches designed to provide I/O throughput of up to 10Gbit/sec., and it plans to add 12X devices that would be capable of 30Gbit/sec, data

Channel, IBM said

rates later this quarter. Chuck Kesler, program manager for grid deployment and data center services at MCNC Grid Computing & Networking Services in Research Triangle Park, N.C., has been testing a Topspin switch as part of a 64node eServer cluster. The InfiniBand switch connects 12 of the nodes, and Kesler said he has seen an I/O performance boost of up to six times better than Gigabit Ethernet.

MCNC is a nonprofit company that provides high-speed interconnection services to more than ISO universities and public institutions in North Carolina. Kesler said the biggest performance improvement provided by Topspin's switch comes from the elimina tion of IP management layers.

"It's not that we didn't want to so with Gigabit Ethernet." he said. "That's the primary switch interconnect fabric or our clusters. But we wanted to look at a second option for lower latency and faster speed."

Hype Cools Down InfiniBand was widely hyped

as a faster data center interconnect technology. But the hype died down in late 2002. after IBM, Intel Corp. and Microsoft Corp. all dropped plans to develop their own InfiniBand products [Quick-Link 35299].

Tony Prigmore, an analyst at Enterprise Storage Group Inc. in Milford, Mass., predicted that IBM's deal will help InfiniBand make headway with users as a core infrast

ture technology by war's end "It definitely will start as a server-based technology. which will have low-latency advantages for applications. Priemore said. Once InfiniBand establishes itself as a server clustering technology, users should become more comfort able about using it at the oet work level, he added. @ 44062

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Defying Gravity

▼HE MOST POWERFUL software company in the world would love to kill it off. The most ridiculous software company in the world can't stop suing over it. Yet Linux marches triumphantly onward and will be preening its new-product feathers this week at the Linux-World Conference & Expo in New York.

Against all odds the open-source operating system has steadily grown up from grass roots to widespread enterprise use, adopted by ClOs and senior IT managers who value its cost savings, its price/performance and the alternative it offers to a lifetime sentence of Microsoft Windows. Its influential cadre of vendor supporters, aggressively led by

IBM and Hewlett-Packard now includes all the major software, hardware and networking vendors (with the notable exceptions of Microsoft and lawsuit-happy SCO Group, of

course) Even the lurking shadow of SCO's \$3 billion lawsuit against IBM over intellectual property rights to Linux and the pipsqueak vendor's threats to directly sue user companies - has done nothing to dampen IT or business enthusiasm. No fear No uncertainey. No doubt. In fact, the past two weeks have been especially busy on the penguin watch. Hardly a day passed without another Linux story bobbing to the surface. Consider the

following: SCO finally ended 10 months of legal foot-dragging by delivering some of the infamous disputed code to IBM (QuickLink 44056). At last, a look at the smoking gun? Nah. Not a single example of those alleged copyright violations that we've all heard about ad nauseam. The central issue seems to be boiling down to contract language, like how the two comeanies were defining things like derivative works. Spare us the details.

Novell stepped forward to indemnify its newly acquired SUSE

Linux enterprise customers against legal actions by SCO [Quick] ink 44020]. HP took a similar protective stance last September, Sun Microsystems also shields its customers from such legal assaults. It's time that IBM and Red Hat stepped forward to do

the same, isn't it? "Anybody that sells code should indemnify their customers," as analyst Bill Claybrook at Harvard Research Group Inc. so aptly put it in our story. "If they're selling software

oducts, then they should stand behind their products. Open Source Development Labs Inc. announced its \$10 million legal defense fund against Linux coev-

right-infringement lawquits by SCO

announced that they had found a new flaw in the Linux kernel [Quick-Link 43947), but users promptly shrugged it off as no big deal.

"I would say [Linux] is more secure than Microsoft and other environments, because the code is looked over by so many people," explained John Cahill, senior network security engineer at Piedmont Natural Gas Co. in Charlotte, N.C. "It's so widely

available that any vulnerability can be quickly identified and patched A U.K.-based Web site publish an IBM internal memo in which CEO Sam Palmisano challenged his com pany to migrate to Linux deskroes

and other open-source-based tools wherever possible [QuickLink A Linux platform for govern-

ment and corporate users in Asia was aced by Japan's Miracle Linux Corp. and China's Red Flag Software Co. [QuickLink 43887]. Japan, China and South Korea are all climbing on the Linux bandwagon in hopes of diminishing the dominance of Western software companies in the operating system and applications markets. So if these early days of the new year are any indication, Linux and open-source will turn out to be the

liveliest technology space to watch in 2004. Who says flightless birds can't Security researchers in Poland defy gravity? O 44076 UNCLE SAM WASHINGTON MONUMENT Jacker Clear's people non-se Increases with any

PIMM FOX

Tangible Deal

For Virtual IT UST 20 MINUTES after the ink was dry on the deal for EMC to buy VMware Inc.

for over \$600 million in cash, I spoke with VMware CEO Dianne Greene and asked her to recount the drama and excitement of the acquisition

She halked She wanted to talk about customers. She wanted to tell me how integrating storage, networking and operating system virtualization was going to

make it easier and cheaper for companies to run their data centers. She told me it made sense for customers that VMware didn't link up with a proprietary hardware vendor such as IBM or Hewlett-Package

She told me how Palo Alto, Califbased VMware would retain its inde pendent sales force and added, with a humility not often seen in Silicon Valley, that

VMware was lucky because Linux's popularity made it commonplace for data centers to confront multiple operating systems.

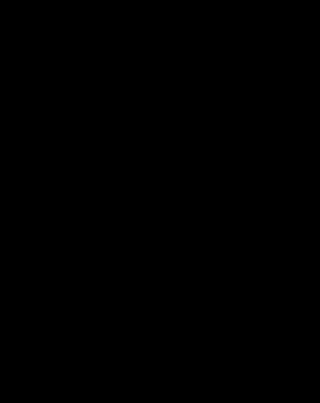
She wanted to stick to business That's reassuring.

since most IT mergers are perilous attempts at cost savings that ultimately

hart customer In a sense, VMware's customers have been clamoring for a combination of virtualization technologies at the corporate level. It just doesn't make sense to do storage, networking and

operating system virtualization in silos. And customers who worry about working with storage vendors other than EMC shouldn't be concerned, since Greene said that as an indepen dent subsidiary, VMware will continue to share application programming interfaces with other storage vendors.

Combining storage and networking virtualization moves the technology from a tool designed for server consol idation to a strategic part of IT infrastructure. It's the way to provision and onitor performance, control access rights and maintain clone copies of



Defying Gravity

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and Insoath-happy SCO Group, of course). From the larking shadow of SCO's From the larking shadow of SCO's S billion land soil against IBM over insured the property signs of times and the property signs of times and the property signs of times and the property signs of the signs directly say uses of the signs of the directly say uses no fear. No uncertainty, No doubt, in fact, the past two times of the signs of the signs of the property signs of the signs of the transport of the signs of the signs of the passed without another Linux story bobbing to the surface. Consider the

following:

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 Novell stepped forward to indemnify its newly acquired SUSF



their customers," as analyst Bill Claybrook at Harvard Research Group Ine, so apely put it in our story. "If they're selling software products, then they should stand behind their products,"

Open Source Development Labs Inc announced its \$10 million legal defense fund against Linux copyright-infringement lawsuits by SCO. announced that they had found a new flaw in the Linux kernel [Quick Link 48847], but users promptly shrugged it off as no big deal.

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wherever possible (QuickLink 43887).

B. A laws, Patisorn for gavernment and corporate users in Asia was announced by lapan's Mirack Limix. Corp. and Chinix See Fileg Software Cas, Edwick Line 1987; I gione, China and South Korea et al climbing on the Linux brandwagon in hopes of diminishing the dominance of Western and South Korea et al. climbing on the Linux brandwagon in hopes of diminishing the dominance of Western software componies in the operating system and applications markets. Software and applications markets with the composition of the composi

Tangible Deal For Virtual IT

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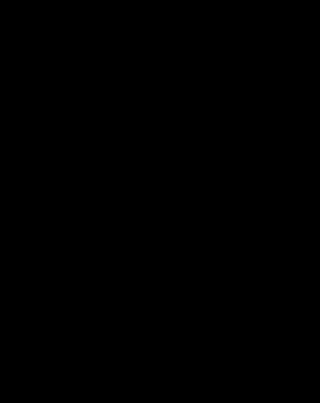
since most IT mergers are perilous attempts at cost savings that ultimately hurt customers.

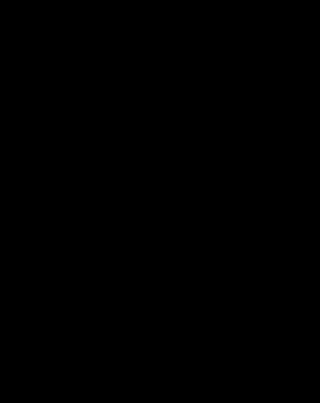
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have been elamoring for a combination of virtualization technologies at the corporate level it just decent make serve to do storage, networking and operating system virtualization in six-and comparing system virtualization in six-and customers who worry about working with storage vendors other home EMC shadder be concerned, since Greene said that as an independent of the storage with storage vendors other useful continue to the storage of the storage with the s

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MANAGEMENT IS: a strategy that uses people, processes and technology to store and tap critical business

data throughout its Mespan of value IN THIS EDITION: See how companies are

evolume from the tradetional notion of duaster recovery as part of a discrete storage and business continuity oberation to a more

bolistic view of information protection and recovery that's rooted in business value.

Information Protection Isn't About Cost; It's About Business Value

IT SEEMS EVERY DAY we wake up to a new challenge to our organization. Like never before, the engines of global economic prosperity-people, capital, infrastructure and informationneed to be managed for resiliency in the face of uncertain yet pervasive risks. Information Lifecycle Management addresses the critical concern of how

best to protect information vital to

DATA VULNERABILITY PERCEPTION 44% of IT

52% of IT executives feet very vulnerable 14% of business SOURCE, ROPER ASW STUDY RISK & BUSINESS CONTINUES commerce and public safety. The end goal is an information infrastructure that ensures the availability of critical information anytime, anywhere across the globe. Achieving this goal requires new thinking, technologies and management expertise needed to balance tradeoffs in cost, risk and business value. The challenge is to move toward

this goal aggressively while operating within real-life budgetary, process and technological constraints. Information Lifecycle Management helps you do that by aligning the various classes of critical applications and data across your enterprise to the appropriate level

of protection and availability According to Nancy Marrone-Hurley, a senior analyst at Enterprise Storage Group, a research company in Milford, Mass., applying Information Lifecycle Management practices to information protection and recovery can make a significant difference. "Data availability is one thing, and long-term lifecycle management is WAR ABILLIA & PROTECTION

INFORMATION PROTECTION: WHY NOW?

NEW REGULATORY DRIVERS

- Serbanes-Oxiey, HIPAA, Basel II, InterAgency White Paper
- HIGHER MARKETPLACE EXPECTATIONS
- Traditional Disaster Recovery which relies on moving tapes from a backup site to a hot site provides a 24 to 72 hour recovery timeframe. Many, if not most, customers won't wait that long before switching to a competitor's product or service.
- BETTER OPTIONS, LOWER EFFECTIVE COST Hardware and telecommunications costs continue to decline while new weekbylty options such as backup and replication using ATA aborate techniques provises.

"When companies had a fairly silond

siloed approach to applications, there were well-defined boundaries."

-Cotin Rankine vice president in the computing infrastructure group. Forrester Research another," she says. "The latter helps you know where information is, how to ensure that it's where it's supposed to be and is readily accessible. Information Lifecyte Management helps you prove the integrity of the data as well."

Marmoe Hurley and other experts on a number of sizes that make a lifecyle approach to data protection attractive. The first is the complexy that powers information management. Not only is information growing at an exponential rate, but is becoming necreasing difficult to detailed application as they date unformation from each other. When component had a first yield approach to provide a proposal to the component had a first yield approach to boundaries, "says Colin Readning, view president in the componing infrastructure group at Fortretter Research in Combridge, Mans," But as componing infrastructure group at Fortretter Research in Combridge, Mans, "But as componing migrate to a dark."

unbased application architecture, applications have become interdependent.

The issue of regulatory compliance is also increasingly high-profile. HIPAA, Sarbane-Ooky and Basell for pieze a few of the most valled here regulators to the most valled here regulators to mandate the way that many companies; manage and protect corporate data, the the advent of this new regulatory convenient, companies must protect miseration, congert and have the ability to recover faster, Morrovers, they must protect the right data—and know when it's time to delete information that's outlived its function. "It's becoming more of an issue, and will likely

continue as more regulations appear over the next couple of years," says Rankine. Many experts recommend the following steps to success for information availability and evotection:

LEAD WITH BUSINESS REQUIREMENTS
Many CROs will conduct a business impact
study, which requires conversations with
line of bosness (LOB) peers to get at the
true business value of each application. To
say it's a ticklish undertaking is to state the
case lighthy, says Marrone-Hardy. "It's very
political," she says. "Nobody in the organzation is some to think that their business.

data is leas important than others."

That's why, companies frequently call in outside assessment teams to help conduct the classification study, particularly in industries where regulatory compliance is an issue. "It takes a lot of discipling, and outside experts can provide some very helpful objectivity," says Gregs Therkalben, vice president of host-original processing the property of the pro

ness continuity solutions at EMC.

Once ClOs have an idea of the value of each application, they must formally classify them. Therkalsen advises that IT executives use at least three different categories of service-level importance.

Mission-critical—This includes applications that will, if interrupted, result in severe financia, regulatory or safery issues for the company. We're talking about sysmethy and the safery of the company and potentially bread deserved to the company, "says Theridaten. Recovery into for these applications will be an eccount, minutes or sweet all."

Essential—Therkalsen classifies most supporting business systems, such as financial analysis applications, in this category. These systems must not be down more than a day. Deferrable—The includes conditionally



Forty-two percent of US IT executives are writing to accept data loss in order to increase distances to their secondary sites. European IT executives are less likely to make this trade-off

are looking at a recovery time of 24 bours

or longer. Marrone-Hurley points out that huseness value isn't always related to monetary value. Certain kinds of data, for example, must be stored according to levels of availability and integrity mandated by regulatory compliance, and availability service levch must reflect the

DESIGN FOR SUCCESS

Armed with a clear agreement on the critical classes of applications and data, the work of designing solutions begins. There are five key design principles for building a resilient. bighly available information infrastructure:

Replication. Information is typically backed up so that companies can recover

FIVE KEY INFORMATION INFRASTRUCTURE DESIGN PRINCIPLES

- DEDITION GEOGRAPHIC DISTANCE
- CONSISTENCY · ACCESSIBILITY
- · COST AND PERFORMANCE

from operational failures and major business disruptions as well as archive data in accordance with business and regulatory requirements. These requirements are converging and should be viewed as one enterprise-level business requirement.

Geographic Distance, Consolidation

information processing into one center can save money, but it also creates vulner-

ability to a single risk event. Systems need to be designed for both economies of scale and distribution of information across suitable distances Consistency. Data and applications are

often backed up at different times of day or week, making it nearly impossible to "restart" the enterprise at a single point in time. Backup and replication to a single point in time is a critical underpinning of a

well designed infrastructure. Accessibility. Anytime, anywhere access to information requires geographically redundant and diverse network connectivi-

ty that enables workers to continue operations from various remote locations. Cost and Performance. The optimum design provides for backup recovery and

high availability in a fashion that is both cost-effective and enables the right level of protection to be applied to the appropriate class of applications and data By applying different levels of protection

to different levels of information, companies can tie the right price and performance levels to each group of information, "I compare it to how people might protect personal information," says Mark Lewis, the chief technology officer at EMC. "The most important records are in a safe deposit box in a bank, more moderately important records in a fire safe in the house, and others are in a desk drawer. Each method has different costs associated with it that corre-

"Business value isn't always related to monetary value "

" yst Enterprise

WAII ABILLIA &

spond to the husmess value of the data," Further, if the CIO can give a dollar value to the different levels of protection, it allows line of husiness executives to make decisions based on numbers, not technical jargon. "It enables the CIO to go to a husness executive and say, 'If your applications are vital, protecting them will mean an investment of X dollars, If you don't think you want to pay that, you can have less protection for Y dollars," Marrone-Hurley says. "This allows the LOB executive to weigh information protection in terms of what it's going to do to his P&L, and they can begin to cost justify the investment necessary to protect each level of application."

MANAGE CHANGE

Of course, shortly after you classify your applications and design and implement the appropriate level of protection, your hustness requirements will change and new processes and technologies will be intraduced, any processors and technologies will be intraduced, any processors and attached availability program that does not articipate and alllow for this fact is serminally filawed.

Row Wilstams, a senior manager at the operation center at Enthlinks, a \$1.3 billion \$19 based in Adatums, styl his company is working on a terrel storage strange, as a way of managing flampsoming data calles in companion on the Stations value. What the Station will be Station value. What the Station will be Station with Stations value. What the Station will be Station will be Station will be Station will be stationary and the station of the station of

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FIVE KEY EMABLING
TECHNOLOGIES

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Marrone-Hurley, "We'll see more intelligence going into software where it monitors service levels and sets policies." In an era of global data centers and com-

and the special control of the potential control of the potential control of the control of the

"Our vision of Information Lifecycle Management is a very integrated function where you can specify types of information protection and recovery," says Lewis, "Information protection is semething that companies must take very seriously,"

NEXT: In the next part of this series, we'll look at new complance and governmee regulations.

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your application stack. It also lets you take a running virtual operating system that's already network-connected and move it across machines while transactions are occurring. It's an effective way to add memory and do load balancing. And this takes hours rather than days. Clones for disaster recovery aren't as much of a headache, and you can move pools of machines to where

Gartner analyst Thomas Bittman says enterprises should change their thinking about consolidation and pursue a server virtualization strategy rather than a server consolidation project. EMC's purchase of V Mware should make that easier to accomplish

O 42000 THORNTON A. MAY

Rethinking Vendor Management

HE RELATIONSHIP between corporate IT and vendors has

never been worse." This is the unambiguous conclusion of high-impact IT practitioners who recently attended executive sessions ar UCLA, UC Berkeley and Ohio State

Research being conducted by scholars at the business schools of these universities indicates that among the many IT processes requiring a fundamental rethink in 2004, the one that's most broken and in need of immediate remediation is vendor management.

In conjunction with the "Managing the Information Resource" program at UCLA, we asked IT leaders the following two questions

I. How satisfied are you with your vendors? # Very satisfied: 20% 8 Somewhat satisfied: 20% * Somewhat dissatisfied: 50% " Very dissatisfied: 10%

2. How satisfied are you with current ye nent pract

" Very satisfied: 2% 8 Somewhat satisfied: 8% Somewhat dissatisfied: 30%

Very dissatisfied: 60%

article (and about 120 doctoral dissertations) to discuss "What IT Leaders Say Vendors Do Wrong," The top four

We could easily use the rest of this

complaints we hear most frequently are

 They're always selling never solving It's always about them.

never about us. They offer very few true insights or actual solutions ■ They bombard us with

much-too-complicated billing and labor-intensive account-relationship admin Instead of whining about how bad they are, let's take the high ground and create a

win-win environment by instituting a multistep "full-value vendor management program."

STEP 1: Circle the Wagons You have to lock down roose IT

spending and re-establish absolute control over dollars spent for IT. The chief financial officer can help you. One of the buggest concerns IT lead-

A CCORDING TO ANALYST Petz-Sharpe in the story INS TO ANALYST Alen

"Records Management: A Naglec ed Discipline" [Durckl via 43004]

agement] work it's bonne, and

a specialty profession.

Nebody wants to do Immedia man-

there's no ROL" That's because a'c

bonnound to have no ROI - by the

those jobs are essential to proper-

THE ARTICLE "Cybersecurity De-trate Heats Up" [QuickLink

435601 quotes Richard Clader as

saying that "if industries don't orga-

rize and require quality assurance

standards in the graducts they buy.

The problem is that the industry

that companies have little contibles.

bought operating systems, produc-

servers from a single vendor, they

Moreover, the software they've

developed in house or bought from

part designed specifically to run on

the permany vendor's operating sys-

third-party vendors is for the most

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Don they get what they deverye

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Records Managers Do Deliver Value

Product Diversity Is Good for Security



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Rick Montgomery

will cost more in the short run but

over time, if will increase cus-

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that they won't work on riverse.

client platforms.

bose the information life towards as

we're the people who have out

ers have regarding vendor management is "shadow IT" (i.e., vendors that sneak into the enterprise by going around IT-managed procurement processes).

STEP 2: Open The Kimono

Assuming you have a nondisclosure agreement in place, share with your entire vendor community your IT environment and strategy. If possible share

with them how you'll meaess and how much money you plan to allocate to various problem areas. Vendors spend a huge amount of effort trying to determine if a given problem area "has budget." Save your self and them some hassle. Tell them

STEP 3 Compartmentalize A powerful insight emerging from new

READERS' LETTERS

No ROI? My job is to keep vendors from allowing talks in my comnorm in make the mestake of know ng everything forever. We reduce the volume of records bean strend and ensure that records are destroved regularly and in accordance with approved schedules. Having that consistency of program en-

sures that a company won't be acrused of haphazard records destruction. That consistency helps to wn lawsuits Records managers. want to do this work. We find it ovothers and we provide an BOI for tion on records managers or records management, visit www.

Patrick Cunningham, CRM Brookfield, III.

I'S IMPORTANT TO WOLF that on single product can solve regulatory shortcomings for an unone pered company. Compliance is a process, not a product, and IT departments that would live to content their own destray - Le., not risk getting their CIO thrown in sall by out

sourcing to a company unfamiliar with specific business reactions need to perform due diligence, read the rules and do the pesserch pended to taker a correlant records en-

research on best practices is that there are two distinct approaches "run the business" or "change the business." Soldom are both ways of applying been practices pursued at the same time within IT. But they should be

In other words, I envision FT managers working with two sets of vendor teams. The first includes the vendors they pay to run today's business platforms ("run the business"). The second team of vendors is used for prototyping and problem-solving for the opportunity to deploy the next busin platform ("change the business"). This two-track approach ensures that the

incombent vendor doesn't take the business for granted By following these steps, it's possible that vendor management won't be on your fix-it list in 2005 O 43991

WANT DUR OPINION?

More columnsts and finks to antivers of previous columns are on our lifety sale:

vironment. No two compliant envicontracts are ables

Analysi Alan Petr Sharpe's por bon fast there is "no ROF in records monagement also seems a bill shortsehlari What IT dearless wouldn't like to tell his CIO that be kept him out of yai? That sounds like guts an ROI to me. Plus, the implementation of a paperiess officesystem and the elementors of archivel file cabinets have saved thousands of dollars in rentert floor stace paper costs and named it doesn't take much croshvey to be a faster, more efficient information retreval system erio a race ROI figure

Bit Kouzi Vice president of sales. LaserFiche Document Imaging, Long Brack, Calif.

infoarlaserfiche.com **COMPUTERWORLD** welcomes will be edited for breuty and clarity. They should be addressed to James EcNe, letters editor, Computerworld PO Box 9171 500 Old Connecticut Path, Framingham, Mass. 01701 Fav (508) 870 4843

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For more letters on these and other topics, go to

WILL A CHEAPER SERVER WIND UP COSTING YOU MORE?

A CIO Insight survey of IT execs revealed this startling news: 42% of the execs polled spent an average of 29 cents out of every IT dollar (f) "maintaining and managing excess complexity." Instead, simplify That's what the on demand world demands. You can do it with IBM eServer" xSeries' systems powered by Intel 'Xeon' processors. Not only do they have built-in self-management features that can help improve server availability, they're also time-tested and reliable. For more information, download Why X, an in-depth guide to xSeries systems at ibm.com/eserver/advantage

5 reasons more and more businesses are turning to IBM eServer xServes systems

Scale 1-16 way with select IBM Director systems : Linux-ready through models Pay as you grow

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IBM eServer xSeries systems are powered by Intel Xeon processors. (And they may very well cost less than you think.)

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If you're busines for a let, look on burder has the SOU 600. With a thrilling 600 GB capacity: and a 172 MBsh brander may. It's the lastest stape drive in the market. The SOU 500 delays with ULISARY or look you callender manageability and reliability. Four limits to markets asstenation, he sould good its beckeved composition than SOU 600 MBsh and ULISARY of the season of the sould good the SOU VISION. Data a seask provider at this case drive and register to MBsh as the SOU 500 MBsh and ULISARY composition to the season of the SOU 500 MBsh and register to MBsh a bones theater system of ULISARY composition are a Resultief Taking".

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SDLT 320



TECHNOLOGY



Three case studies show how a unified view of storage resources can reduce application downtime and save money.

By Robert L. Scheier

TORACE virtualization isn't new. It has been done for decades on mainframes, and almost every storage wendor claims to offer virtualization across at least some of its products. By creating a single view of multiple storage devices, virtualization can simplify and thus lower the cost of storage manner in can also re-

sociage devices, virtualization can simpairy and thus lower the cost of storage management. It can also reduce the number of new arrays a company buys by combining data from multiple servers or applications into a shared pool of storage. That provides an alternative to buying more storage for one overtaxed serving the light is come site memory on the casus, building.

er while data space sits empty on the server beside it. But storage managers need to remember than not all virtualization is created equal. In many case, a vendor's virtualization offering words only for words beat on its own hardware, while most organizations own storage hardware from many vendors. Some virtualtation products work only on file-level devices, which work on the level of blocks (the six-while others work on the level of blocks (the six-while others data can be stored and retrieved on storage devices). Some evendors tout the benefits of design er virtualiza-

Some vendors tout the benefits of doing virtualization on the server, while a govering number claim it should be done on the "fabric" that links storage devices. But such technical arguments "typically focus on details where one vendor can differentiate humoit from another," says Randy Kerns, a partner at Evalutor Group Inc. in Greenwood Village. Colo. He suggests storage customers develop a strategy around their near- and long-term business needs.

Users shouldn't look at virtualization as a product or a feature in its own right, but as an enabling rechnology to solve business problems, says Steve Kenniston, a technology analyst at Enterprise Storage Group inc. in Milford, Mass. For the fastest possible data backup, he says, a

Virtualization
GETS DOWN TO BUSINESS

Unused Terabytes

Philadelphia Stuck Exchange Inc. Unable to realisease storage without unappropri-

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need for seamless disaster recovery IP SAN from LeftHand

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Application Acceleration Wasatch Advesors Inc.

Underused direct-attached storage poor application response time; need for cost-effective remote backup

SANsymphony from DataCore Software Corp.

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VIRTUAL DIFFERENCES

www.computerworld.com



company might choose to perform virtualization on a dedicated server such as a network-attached storage appliance that's optimized for serving un logical storage volumes. If a company wants to flexibly move data among, say, servers running different operating systems, it might instead opt for fabricbased virtualization in which switches linking the storage devices have the intelligence to reformat

Similarly, a company building a new storage infrastructure has the luxury of choosine switches and software that support fabric-based virtualization from the start, Kenniston says, whereas one that has invested in expensive storage-area network (SAN) switches might got for lower-cost, if somewhat slow-

er, virtualization software running on a host Here's how three customers focused on the busi ness problems and, as a result, are seeing the benefits

of virtualization today. Unused Terabytes Veritas Seftware Corp.

DETUNER Philadelphia Stock Exch PORLEM Unable to real

161 Foundation Suite, Volume Manager from

Virtualization has solved one big problem for Tom-Catone, director of the systems architecture group at the Philadelphia Stock Exchange, Bur he has two more challenges he's hoping virtualization vendors will tackle, and soon The problem virtualization has eliminated is under-

use of the terabytes of storage that were directattached to the stock exchange's application servers two years ago. It would have taken "days of planning and hours of downtime" to reallocate storage among critical servers. Catone says, so the exchange simply added more storage to each server as needed. That kept vital applications running but was inefficient because the exchange was buying new storage for some servers while storage sat unused on others.

By moving to Brocade switches EMC Symmutely systems and Hitachi Data Systems SANs, Catone has increased storage utilization from 50% to 75% and saved \$500,000 by reassigning unused storage among applications rather than buying new disks. We just reallocated 2TB of storage the other week," he says. "It took all of an hour to plan and 15 minutes

The SANs now provide storage for the stock exchange's Tier I transactional applications, as well as Tier 2 applications such as decision support. Tier 3 consists of archival data stored on tape. Next year, Catone says he plans to move the Tier 3 data to SCSI or Advanced Technology Attachment-based disk drives to provide relatively low-cost, but rapid, retrieval of archived data, since "there are times when we want to be able to [recover] data within 15 minutes or a half hour from five years ago."

The second capability Catone wants from virtualization is automated migration of LZTB of data among different storage systems based on preset criteria such as the age of the data, the capacity of the disks on which it's stored, or file or data type. He would like to see virtualization-based storage manage tools that could perform this function instead of highly paid application developers and database adminis-

THE BASICS

trators whose time could be better spent developing revenue-enhancing applications. Automated, policy-driven migration would require

virtualization to solve Catone's third problem: sharing storage among servers running different operating systems. He hopes that virtualization performed on the fabric of switches and other hardware in storage networks will eventually mask the differences between files used by different operating systems.

Improved Storage Prescription DUSTONER Denver Health Medical Conte BUSINESS PROBLEM Understifized dir

need for seamless disaster reco VINTUALIZATION PRODUCTS IP SAN from Left Hand

Jeff Pelot has already seen the reality of virtualization, when he watched four Network Storage Modules (NSM) from LeftHand Networks come up as he installed an IP SAN at the Denver Health Medical Center

"We plugged the things in turned them on: they came up and recognized each other as a contiguousstorage device, even though they were physically separated by a couple of buildings," recalls Pelot, the health care provider's chief technology officer.

The 3,700-employee hospital currently has a split environment of Fibre Channel SANs in the form of two Clarifon products from Hopkinton, Mass.-based EMC Corp. They were purchased in 2001 and 2002 to escape the cycle of buying more disks whenever one of the medical center's 97 servers failed and to keep up with a 50%-per-year growth in storage demand. Pelot put 3TB of data from critical patient-care systems, as well as e-mail and other departmental applications, on the Claritons but keet a beta-testing rela-

tionship with Boulder-based LeftHand Although the Claritons provided more efficient provisioning and improved data prosection and re-

covery compared with direct-attached storage, Pelot boped IP SANs could provide similar performance at a lower price, as well as simplified management through virtualization. In early 2002, he became LeftHand's first customer, buying two NSMs for the hospital data center and two more for a network wiring closes. "When I look at my EMC SAN, I have two frames,

and they mirror each other completely. That doubles the cost to manage whatever storage I have," says Pelot. In contrast, the single console interface Left-Hand provides is "very, very intuitive" and allows a single administrator to manage the EMC as well as

the LeftHand environments, he says. When the hospital provides bim with more space in a new building, Pelot will use snapshot, remote copy and asynchronous replication to duplicate data between the NSMs in his current data center and the new, more secure location. "I don't have to duplicate my environment to still maintain high availability and disaster readiness," he says

Pelot now has 5TB of raw capacity on the Claritons and 7TB on the IP SAN. In the future, he also expects to see clinical data "going to the IP SAN because it's more affordable and it's proving itself."

Application Acceleration CUSTOMER Wasatch Advisors Inc.

BUSINESS PROBLEM Underuned di poor application response time; need for cost-effective

TECHNOLOGY SANsymphony from DataCore Software Corp. Virtualization hasn't reached its ultimate goal of automated, policy-driven data migration across storage devices from any vendor. But it was good enough to pay for itself within nine months for Wasatch Advisors. The Salt Lake City-based mutual fund firm was running approximately 500GB of direct-attached storage on its approximately 25 servers when it began looking for an alternative storage strategy in mid-2002, says CIO Dwight Ricks. With disk utilization at only 27%, Wasatch was buying much more disk than it needed. In addition, new compliancechecking software was slowing response time, as was the process of mirroring individual servers to an offsite location one by one In November 2002, Ricks purehased a Dell Inc.

PowerVault 660F configured for RAID 10 mirroring with about LSTB of capacity. He chose DataCore's SANsymphony storage management software because of its performance and support of servers and storage from multiple vendors. Ricks is now usine Fort Lauderdale, Fla.-based DataCore's asynchronos IP mirroring on-site, and by the end of the first quar ter, he hopes to also be using it to mirror data off-site. By placing storage on the Fibre Channel SAN. Ricks has reduced the performance hit from the compliance-checking application and improved response time for traders by 50%. Add that to the sayings from making more efficient use of his disk space, and Ricks figures be made back his invest-

ment within nine months And by using SANsymphony's Dynamic Network Managed Volumes, he says he can set up and assign storage volumes "during production hours instead of having to come in on a weekend or late at night." To Ricks, virtualization means "I can do my job when I need to do my job, and it doesn't have any impact on the servers." O 43718

ARTUAL DIFFERENCES



NICHOLAS PETRELEY

Gazing Into the Cyber-Crystal Ball

T'S TIME ONCE AGAIN to get out the cybercrystal ball and make predictions about the near and distant future. But first, let's take a look at the scorecard from last year.

I predicted a big revival of interest in Javabased client applications over this year and the next. I still have another year for this to pan out, and my chances look good. I personally use a Java-based personal finance application and a Java-based text editor

on a regular basis. There are hondreds of other types of Java-based client applications available some of which are remarkably ponolar. The Eclipse graphical integrated development environment is possibly the most popular of all. It has been downloaded over 12 million times in two years It has hondreds of available ploe-ins, and the latest versions are winning awards left and right Eclinse will even boast its own techni-

cal conference, starting this year (www.eclipsecon.org). There has also been an explosion of Java-based client applications for mobile phones and PDAs, although they're mostly games.

I also predicted that Microsoft woold back off its efforts to win the server market and refocus its attention on the home media center. I believe there is plenty of evidence to call this prognostication a bull's-eye, but since the evidence is mostly circumstantial. I'd be interested in whether you think this prediction is panning out.

My first prediction for this year is the same one I've been chanting for a half-dozen years or more: A octwork competing revolution is inevitable. I'm betting that network computing will run primarily on Java, bot there's another possibility that dovetails nicely with the idea that Microsoft will continue to focus its efforts on stormine the home market. First, think of the obstacles that have prevented network computing from taking over the world. The problem cited most often is insufficient bandwidth. Put simply, networks, especially home Internet connections, can't handle the traffic required to support network competing, espe-

cially if yoo have to download entire applications to your client every time you want to do some work.

One way to minimize network traffic is to one a hard drive to cache anplications and data so that a network computer client has to retrieve only whatever data has changed since the last time the client was used. Now think. What home media device has a hard drive installed by default (other than digital video recorders like TiWo? The Khoy

Of coorse, the only thing less likely than Microsoft endorsing network computing via a loss-leader device like the Xbox is Microsoft using Java for the applications. But one never knows. Perhaps by the time Xbox 2 ships, things will be different.

I'm going to go way out on a limb with my next prognostication. I predict that the usage of Internet Explorer will fall below \$0% of Web surfers within the next three years, if not sooner. Internet Explorer is the Windows 3.1 of the browser world, software that has stagnated for nearly a decade because using it is easier than installing an alternative.

Alternatives like Mozilla, Opera Kongoeror and Safari are getting lightyears ahead of Internet Explorer in terms of usability and features. They're free (yoo can purchase a com mercial version of Opera), easy to download and easy to install. Inertia counts for a lot among software users. but these advantages aren't going to escape their notice forever. That will be especially true when it becomes obvious that Microsoft is attempting to change user subscription fees to get features like pop-up blocking - features already integrated into other free

It will be difficult to assess how well Ldo on this prediction, because it's so easy to set some alternative browsers to identify themselves as Internet Explorer to Web sites. Bot if Internet Explorer continues to fester untouched and this unthinkable prediction torns out to be true, remember you read it

Finally, I predict this will be the year SCO will go from laughingstock to penny stock. Ron Popeil will buy the commany for \$50 (\$25 after rebate) and start selling a fake head of Darl McBride mounted sideways on a simu lated wood plaque. The head periodically will torn to face you and utter hollow threats like, "The singing fish was my idea! I'll soe!" @ 44047

WANT OUR OPINION? For more columns and links to our archives, go to

Fuitsu Introduces Widescreen Tablet Fujitsu Computer Systems Corp

has introduced a new tablet PC The Stylistic ST5000 leatures a 12.1-in, screen, built-in Gisabit Ethernet connections, a built-in smart card slot and optional with an Intel Pontium M processor, and its od batte rides up to five

hours of use, acrding to Santa Clara, Calif.-bas tsu. The ST5000 comes in a si format and has an eptional deci no system. Its have price in

3Com Announces **Ethernet Switch** SCorn Corn. in Marthorn, Mass.

last week announced the 3Com intellulack Switch JN220, a four port managed Ethernet switch that fits into a standard single port wall outlet. The product, fo merly called the Network Jack, features enhancements over the us version released in Nomber 2002; they include voic support, new security and adpercent, It is ship o now and is priced at \$219 with a Power Over Ethernet attachment for an added \$29.

Corel to Launch **Design Suite** A "smart drawing" tool and

phics placement guides are ng the new features in Core Corn.'s successing CarelDraw arshire Scales 12 which will be aned next month by the Otnamy. The new tools are aimed at helping users pe business grap using the main three applical CorefOrane 12 for illustration sage layout, Cerel Pho Paint 12 for digital imagine and Corel RAVE 3 for motionics creation. The full ven of the suite retails for \$399; an

Vantage



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MANAGEME



Being an IT leader means communicating up, down and around the company. By Mark D. Lutchen

meet their users' needs. account teams municato

FTEN, EFFECTIVE comm cation skills aren't considered high priorities for CIOs. However, like any oth er major business unit in a company, the IT organization must effectively communicate on a regular basis with all of its constituents

Consider the case of a large North American food services company, where the communications function was very poor. Competing local FF groups rarely communicated with one another. And the little communication that took place with other constituencies was brief, often "IT-cryptic" and usually self-serving. Powerful IT managers intimidated their staffs, and any communication with those staffs was in the form of top-down directives, offering little chance for discussions about

key issues Communication between IT leaders and the company's executive businessunit management was no better. Even when the IT organization had accom-plished "great things" that it could brag about, IT leadership's lack of understanding concerning the power of marketing and communications ensured that nobody in the company was taking

the IT organization seriously. Fortunately, company leadership ap pointed a new CIO who understood the power of communication, both within the organization and between the organization and its constituencies. In the IT organization, he undertook a series of steps to open lines of communication from IT leadership to staff, from IT staffers to leadership and among IT staff, so they could more effectively

He set up a series of open and candid "town half" sessions across IT and with IT users and business-unit man

■ He established an open-door policy whereby anyone in the IT organization could communicate directly with him - face to face, over the telephone or via e-mail. Part of this policy was an open electronic forum (similar to a



ohn Wiley & Sons, 2001

chat room) where individuals could - anonymously if they wished pose questions to their colleagues or the CIO

■ He initiated a "no surprises" policy focused on encouraging people to communicate problems early and find solutions before the problems grew larger. This CIO intuitively understood the power of marketing, even though he knew that he didn't have all of the skills

required to create and deliver effective marketing messages. He brought a professional marketing and communications person into the organization to help him and others throughout the IT organization become more effective communicators among themselves, with users and with corporate man-

Communication doesn't just happen. It requires confidence on the part of the organization's leader, and it requires professional assistance to tailor the

organization's message for particular audiences. The CIO must be comfortable sitting at the center of three communications channels or funnels (see diagram, next

page). From this vantage point, the CIO cilitates communication between techies and executives in one of the funnels, between users and providers in another of the funnels, and between those inside the company and those outside the company in the third

To some extent, the CIO serves as the

translator of IT information - sort of a Rosetta stone - among all the different parties. And the CIO must be able to alter the content-delivery medium and his or her communication style to suit each constituency.

A marketing and communications professional can help CIOs to not only craft their messages in terms that are meaningful to each constituency, but also understand how every one of their actions and behaviors communicates to the various constituencies as power-

From Captive to Willing User Because everyone in a company uses

fully as their words.

IT. everyone is, in a sense, a captive of the IT organization. However, the goals of IT communications are to make users want to utilize IT services and to persuade them that the IT organization is a provider of high-quality. high-performance services of significant value.

To accomplish these objectives and create willing, rather than capeive. users, IT leaders (with the help of communications professionals) need to take the time and effort required to craft messages that place IT activities and efforts in the proper context. Then they need to instill in every member of the IT organization the notion that carrying these messages in a consistent fashion to various constituencies, within and outside the company, is important and is a part of every person's job



Too many CIOs and other IT professionals are comfortable running IT as a "black box" operation and comcate their activities on a need-to-know basis. However, if CIOs are to be invited to sit at the executive table, they must peel back the curtain and reveal how IT operates and articulate messages that help explain these operations and how they benefit the company. Transparency and open, candid communications are two ways to achieve that goal.

Communicating Like Business Leaders

To manage IT as a business, CIOs must learn how to communicate like busi ness leaders. This means properly balancing honesty and integrity with a small dose of politics or "spin control."

Political leaders and constituencies, in cluding the CIO and those who work in the broader IT organization, need to define how others in the company perceive them and their organizations. If they don't, others will do it for them. At one organization I worked with the CIO and IT staff were, from a technical perspective, among the best I've ever seen. Despite their skills, others in the company treated them as door mats and regularly subjected them to vicious tongue-lashings. Any time an IT-related problem cropped up, the highly qualified IT professionals be-

came the scapegoats and were put on

and demoralized because they knew

they were doing a good job. But the

CIO and the entire IT organization

didn't know how to get that message

the defensive. They were disheartened

across effectively to the various constituencies

The marketing/communications group persuaded the CIO to bold monthly briefing sessions with each business unit. He began to issue a morketing-grade, quarterly report on IT performance, services and projects. Within six months, the IT organization's image improved significantly within the company, and people within the IT organization began to believe they were recognized as real contributors to the company's success.

Framing the Message Whether the message is delivered in a marketing, public relations or general communications format, it must be clear, consistent and meaningful to the intended audience. Communications should be linked, both explicitly and implicitly, to the company's business strategy, not merely to the IT strategy. IT's role in supporting and enabling that strategy should be woven into the IT organization's message. Because ality, cost and service delivery are the IT organization's key deliverables messages should focus on bow IT is progressing on improving these areas.

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PR TO THE RESCUE Cine study A cress PR plan rear

employees after a catastrophic fire at a data center. QuickLink 43817

Three Ways To Spin

ared to specific circumces and supposes. Generally over nications tall under one of the fol-

do in ways that are attractive and apences. They in crisp and bresk. Their purpose is to get the audience to accept the measure quickly. For IT, marketing of ess of the IT organ

Caution: Because of their tendency to p duce technical solutions, many CIOs and IT or ors mistakeniy locus on e-mail for ting. In almost all cases, a more appro priete combination of media is more effective.

If organizations can use marketing to build as of the services they provide, of curr ance levels and of projects in progress. can also use marketing to prepare vorious encies for changes to those services.

2. Public Relations

The held of public relations seeks to use "tree media" to increase awareness of an organizate and of the esteem in which it a held. When co municating to an internal audience, the CIO and all of the company's IT professionals must part their activities as being "under control" from a mance, economic, organizational and mor

not servits a message: Thus is a techie on tion. However, adding a little nerrotive spin, in-cluding some trend analysis and a few clear, o group is able to measure things in a business-located manner. Befor yet, if the message is de-livered in a formel briefing assists rather than by e-moil, the CIO is seen as one of the compo

ores can also be used to deal w If crises, in fact, in today's world, because IT touches just about everyone in the company, the manner in which IT crises are handled can m or break the CIO, the entire IT proprezation and perhaps even the company limit. Possible even that warrant the use of "crists PR" include a me er or acquisition integration mishep, a catacitroph in laker of a mission-critical application, a net-work or critical infrastructure failure, a significant

* Regularly issued (questerly, personnes) and

notes to e-mail bulletin boards. One of the most effective comve over encountered involved a CIO's regulari-scheduled personal visits to local office location The CIO would engage in Informal discus

ion's key custom se unit management. In addit and with business crist management, by each the CIO took the opportunity to meet with to werell strategy and to solicit their views and co this loan bear. As teen as in our brown with location, staffers would be on the phone or writ-ing a wall tying to set up a date for the next well. The direct, personal approach of this CIO cre-ated substantial treat and credibility among uses

BRIEFS

Retailer Outsources EDI Supply Chain

trovic data interchange (EDI) sup ply chais to Blobal Exchange Services Inc. in Basthersburg, Mrd. Tweeter, which has TV consume occurrency relati stores, will use OXS's Legistics Visibility product to track orders and alternative, with the goal of improving the management of inventory, staff and supplier invoices, and other than the control of the control of the staff supplier invoices, and other

Martha Stewart CIO Moves to Bluegreen

Bluegreen Corp., a Boon Rates, Fla.-based developer and marleter of three-share reserts and realdantial subdivisions, has hired Shells Beaucheuse, 38, as CIO. She will be responsible for the IT infrastructure, as well as all database and advanced marketing

Beaucheene had been senior vice president and CIO at New York-hased Martha Stewart Livit Convincella Inc., since 1996. She has also held executive positions at the North American Revisal Group of AutoMation Inc., and

Prudential Names Successor to CIO

Protential Financial has nam Barhara G. Koster to replace William D. Friel, who is retire or 16 years company, Ko Johnel Prude in 1905 as vi

joined Protents in 1985 as vice president of pol administration and manageme systems and we most recently CIO of Protential

ment recently CIO of Prudential dividual Life insurance, in that role, she oversare the Leunchi[®] program, which provided laptop to Prudential's field force and or sibled mobile access to produce and customer information. In he more position, she will be responble for IT companyation. BART PERKINS

Offshore Mania

FFSHORE OUTSOURCING is here to stay, since U.S. companies need to remain competitive in the world market. Responsible business people have to consider moving work to locations that offer the best combination of cost and service.

Unfortunately, the U.S. is in the midst of an offshore mania. The hype in the business and trade press (as well as that great executive opinion-shaper, the airline magazine) simultaneously causes and confirms this. As a result, a large number of companies are convinced that they must send something offshore to remain competitive and are further convinced that they must do so immediately.

nies are feeling so pressured that they truly believe they don't have time to examine the questions necessary for success offshore. But companies that focus society on the potential cost savings from going offshore, without careful evaluation of corporate motivations, business issues and trade-offs, will be unhappy with their offshore efforts down the road.

No Shortcuts

Many companies are curreotly searching for the "right" offshore partner. But they aren't really in a position to determine which of the myriad offthore online heat mast phase.

determine which of the myriad offshore options best meets their needs unless they've established their sourcing requirements. This is most effectively accomplished through a process that examines the critical sourcing issues, which then leads to a deliberage sourcing strategy.

I've recently been approached by a oumber of companies that are interested in going offshore but that want to jump straight to partner selection and contract orgotiation, without doing any homework. For example, a systems integration firm asked me to introduce it to an off-shore company that could supply programmers and project managers. In order to determine which companies might be most appropriate, I asked the systems integration people several qualifying questions, including these:

Which cost/service trade-offs are you willing to make?
How much risk can your company tolerate?
How will you make de-

cisions and resolve disagreements with your offshore partner?

How important is Software Engineering Institute certification? Does your company require CMM Level 5

Do you have several low-risk projects that would make good pilots? When faced with these questions, the systems integration people became impatient. They insisted they didn't have time to explore such questions.

processes

an agreement immediately. (It's interesting to note that this well-established company would never dream of starting one of its own consulting assignments without a clear, well-written set of requirements.

A Quickie Wedding?

This company reminds me of someone who desperately wishes to be married. With only that goal in mind, he rushes to a justice of the peace with someone he met a week ago at a dinner narry despite the advice of close friends. What do you suppose the odds on that marriage lasting will be? Such a brief engagement can result in a successful marriage, but the chances are extremely poor. Do you want to bet your company's future on the equivalent of a one-week engagement? And, by the way, just like divorce, leaving your offshore partner will be costly and painful.

painful.

Twe had similar experiences with enough firms to convince me that the enough firms to convince me that the U.S. is in the middle of a full-blown offshore mania. Looking at the history of manias, from the construction of the railroad during the 1800s to the initial boom in automobile manufacturers to the Internet bubble, it's clear that they always end (sometimes spectacularly).

The rains place of officer officers, and the price of the companies will see of our officers officers officers officers officers officers of the companies will see on who officers only as the result of business decision that have been well thought out. If you're currently feeling pressured to outsource or to send omenting off-shore immediately, invest the time that that important hairmed decision of selection of the companies o

WANT OUR OPINIONS

have time to explore such questions, but needed to select a partner and sign



Retailer Outsources **EDI Supply Chain**

up Inc. is outsourcing its ele onic data interchange (EDI) supply chain to Global Exchange Seres Inc. in Galthersburg, Md. or, which has 174 cons nics retail stores, will use CS'a Logistics Visibility pr h the goal of improving the

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No Shortcuts

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cluding these ■ Which cost/service trade-offs are you willing to make? How much risk can

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painful. I've had similar experiences with enough firms to convince me that the U.S. is in the middle of a full-blown offshore mania. Looking at the history of manias, from the construction of the railroads during the 1800s to the initial boom in automobile manufacturers to the Internet bubble, it's clear that they always end (sometimes spec-

The mania phase of offshore efforts will eventually end, too. At that point, companies will send work offshore only as the result of business decisions that have been well thought out. If you're currently feeling pressured to outsource or to send something offshore immediately, invest the time that this important business decision deserves and requires. Only then can you successfully leverage your sourcing decisions to select the right offshore option and design a partnership that will result in long term success. O 43975

WANT OUR OPINION?





Office manager escapes clutches of desk



"At last I'm free, thanks to Nokia Mobile Connectivity solutions...and it feels great," exclaims Mary Langer, office manager.

"I though! I was imprisoned at my desk forever no hope of any release—but at last I'm free. No I can visit more suppliers, get better deals and wo whenever and however! want. Am I happy or an happy..." Mary enthused at her first taste of freed Workers everywhere from CEOs to Account Manas, are rejoicing today at Secure. hought of a real breakthrough

Secure, Reliable, Freedom and Flexibility

their working lives. "Mol
and Connectivity from Nokia m
I can make better use of
waiting time at the airport,"

CEO, Don Baker, "which gives me more family when I get home." Even sales manager, John P was overjoyed as he realized his field sales team visit even more customers, now that they were securely access company data while on the "They can check emails from home, at the off

Introducing a new era of secure, corporate business freedom and flexibility — Nokia Mobile Connectivity solutions.

Employees throughout an enterprise want to be more mobile and productore — and this can be realized theirs to Motial Hobel contentity soleons realized theirs to Motial Hobel contentity soleons could be soleoned to the soleoned to socially of moneyes and provide the mobility and socially of moneyes and more to the content white empowering everyone from the CO for the white moneyes and when the CO so hold hobble connectivity soleons include a range of priseand SSL based client and gateway products that and SSL based client and gateway products that



acordio secure. appropriate access to corporate emula and applications. Enterprises will discover new levels of efficiency from the security of enterprises and personal flows. All solutions are more because and personal flows. All solutions are present better and personal flows. All solutions are present personal great personal flows. All solutions are present personal great manager, and manage, are based on avandamentary technology and are backed by slobal Support and Services.

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Farming Out IT Security
Outsourcing IT security functions can succeed, users like
David MacLeod say, if you choose
the right services and ask the
right questions, PAGS 35

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Security Begins at Home
Your notwork is only as secure as
Your weakest link — which might
are growing population of
mmuters, PAC 1

EDITOR'S NOTE

LUR. THERE ARE other enterprises metworking issues, including Gaphin fibernest and voice over II But talk in the control of th

Surveys show that security is the top IT spending priority for this new year, and that's why we've focused this special report on network security. But instead of running the same old advice you've read a dozen times, we examined new areas:

■ Some companies — figuring security isn't their core competency — are outsourcing security chores to managed security service providers. They provide experts who can stay on top of the latest vulnerabilities, but you've got to know how to manage the relationship.

■ The technologies used to monitor and guarantee network quality of service are merging with security technologies — a powerful combination.

The weakest link in your corporate network is that laptop sitting on a table at Starbucks or in a telecommuter's spare bedroom. We hope there's something here that will help you plug the gaps and sleep better. And if you have trouble getting funds so pay for tighter security, be sure to read ex-CIO Doug Lewis shrewd ideas for selling security to the

CFO [QuickLink 47/08]. © 438/3

Mitch Betts is Features editor at
Computerworld. He can be contacted at
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PowerEdge 1750 - October 28, 2003



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Outsourcing IT security functions can succeed, users say, if you choose the right services and ask the right questions. By Matt Hamblen



-armir t Security

UNY COMPANIES outsource some or all IT security responsibilities to a service provider. But IT managers. who have been down this road say it's important to know what to out source, what the conditions should be and how to set up the contract

Outsourcing IT security can work, many users say Successful arrangements can lower security costs and make up for a lack of in-house expertise. Users disagree on some details, such as whether to use more than one managed security service provider (MSSP), but they also offer specific advice on dealing with liability issues, which services to outsource

and how to hold vendors accountable "It's better to have one MSSP and to have done the due diligence to trust them - and you are trusting them a lot," says Jeff Nigriny, chief security officer at Exostar LLC in Herndon, Va. Exostar, an online exchange for the aerospace and defense industries, outsources some IT security functions to TruSecure Corn in Herndon

"I like the idea of one neck to grab," says David MacLood, chief information security officer at The Regence Group, a Portland, Ore, based health insurance firm that outsources security to Counterpane Internet Security Inc. in Cupertino, Calif.

More Than One Basket

But not everyone thinks the single-vendor approach is best. Eric Ogren, an analyst at The Yankee Group in Boston, advocates using more than one outsourcer to provide checks and balances and even recommends switching vendors every few years. 'It is never good to have all of your security eggs in one basket," he says

And even though he works at a security services provider, Joel Pogar, security practice manager at Siemens Information and Communication Networks Inc. in Boca Raton, Fla., says it's a bad idea to hand over all the keys to one provider. He says that's like having "the wolf watching the henhouse Customers often pick only one security outsourcer

to save money, Pogar says, because outsourcing more security functions to a single provider tends to cost less than paying several vendors for the same services Pogar says customers are so worried about keeping costs down that they often use the outsources that handles password management and patch upgrades to audit their own work. "I strongly object to that," he adds.

MSSP contracts strictly limit liability. "I don't think there is any liability with the outsourcer other than me yelling at them" for network security breaches or other problems, says Bob Breeden, special agent suwww.computerworld.com

vide alerts of a virus or new vulnerability You won't get anybody to say they'll take or sibility if you have damages" from a security failure. adds Paul Prentice, manager of security and directory services at office furniture maker Steelcase Inc. in Grand Rapids, Mich. Steelcase outsources IT security to Ubizen Inc. in Reston, Va. The usual position of outsourcers, he says, "is more of, 'We'll work with you and provide monitoring and detection.' . . . But

that's the point where they draw the line." ations do have alternatives beyond the limited liability that outsourcers offer, however, Nigriny says Exostar will get back no more than what it pays TruSecure for outsourcing should something go wrong in a given month. But he also has hacker's insurance to protect against losses in Exostar's internal network. And because he has outsourced to

an MSSP, he receives a discount on that insurance. Nigrimy says. MacLeod agrees that an outsourcer's liability is limited, but he says his vendor was helpful when a problem came up. In 2008, Counterpane helped defend the credibility of Regence's security logs shortly after their outsourcing arrangement began, he says. Two Regence employees were fired for compr

ing the firm's network, and both filed wrongful termition claims. The former employees lost their cases partly because the security logs were accepted as nce with the backing of Counterpane, he recalls, To make up for liability limitations, Ogren suggests companies demand upfront that the outsources commit in the contract to reasonable staffing levels

with qualified workers and to agreed-upon levels of responsiveness to security events. Steelcase's Prentice says he scoured résumés of outsourcers' staffs in the selection process to help make up for the lack of legal accountability.

Who Handles What

Users and analysts say that outsourcing security duties such as the monitoring and management of firewalls and intrusion-detection systems (IDS) doesn't mean walking away from internal responsibilities. You cannot outsource risk," says Ogren. "You

should never outsource everything." In a typical arrangement, the outsourcer should create guidelines for how involved the service should be, users say. In every case, they say the customer should initially maintain sign-off authority on security actions. Only when a security action becomes routine should the customer let the MSSP execute it without review

Prentice warns against picking an outsourcer that sets up the decision-making process in a "very rigid and structured way." Steelcase and Ubizen have agreed on three levels of change control: standard, unusual and problematic. When changes are requested in the security infrastructure or policy that are labeled "problematic," Ubizen is saying, "You shouldn't do this because it will put you at risk." And at that point, Prentice is informed about the process. "I do get the ultimate sign-on with a security change, depending on the risk, and I decide what does this mean to the business," be says.

Deciding what to include in an outsourcine deal

10 Questions To Ask a Managed Security Service Provider

Before signing on the dotted line. experts suggest asking MSSPs these questions







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varies by organization. For example, at health insurer Regence, federal HIPAA requirements have led to an evaluation of what security tasks can be outsourced. *Because we are under HIPAA. I am the designated jailbird, so I'm not comfortable abdicating the protection of the electronic perimeter, our technology safeguards or administrative procedures," says MacLeod. "I'm not going to let somebody else do that." As a result, Counterpane monitors the perimeter but doesn't manage it without asking first

Nigriny says no client in an outsourcing deal should ever give away security control of infrastru ture pieces or anything of competitive advantage. "If you are an ASP and host applications, don't out source security of those to an MSSP," he says

Because security is a differentiating factor for Exostar, the company doesn't want to outsource security involving its online exchange to TruSecure. Instead. TruSecure provides monitoring, firewall and IDS management and maintenance for Exostar's corporate network but not its hosted applications. "The idea is that you want to carry out the management directives," Nigriny adds.

Earning Trust

Becky Autry, CIO at the U.S. Olympic Committee in Colorado Springs, says the outsourcing relationship can evolve, as the vendor proves its abilities. The USOC uses a broad spectrum of security ser vices from AT&T Corp., partly because it's a small nonprofit and its IT staffers "wear a lot of hats." Autry says

When the USOC started using AT&T in 2000. AT&T had to notify USOC staff before making any changes to network security, but AT&T now has the ority to make changes in the middle of the night without prior approval "if they see the potential for danger," says Autry.

Dan Klinger, manager of information security at Hershey Foods Corp. in Hershey, Pa., uses a Webbased auditing tool from Qualys Inc., an MSSP in Redwood Shores, Calif., but no other services. "We want to hold onto most security in-house, since we know our environment best and how to prioritize our vulnerabilities," Klinger says. "I'm not closeminded to the concept of outsourcing security, but overall I'm very cautious.

Users and analysts say the best way to ensure accountability with an outsourcer is to set terms in the contract that dictate how often and for what purposes reporting will take place and to then study those reports carefully

Kelly Kayanagh, an analyst at Gartner Inc., adds that asking for Web-based reporting tools is also desirable for the capability to periodically scan the network perimeter to ensure that outsourced devices

are configured correctly Some users set up their own monitoring tools. For example, Regence's security logs are generated by its own systems, and Regence employees periodically review security events to see how Counterpane han-

dled them. MacLeod has a five-person staff that RELIGION THE MISSE does audit and compli-Tax for evaluating manager ance checking. "They are

my friendly backers," he says. O 43802

Merging the two technologies gives users multiple lines of defense against

network attacks. By Joanie Weyler Security And QoS Unite

it ger (NITS quality-ofvery ace and network security technologies lived in separate worlds. But they have something important in common Certain types of attacks on network security affect application performance - and ensuring application performance is the main mission of OoS

So the two technology camps have begun joining forces to stave off norwork attacks that degrade or halt network performance.

The enemies at the gate are worms viruses. Trojan horse programs and denial-of-service attacks. These invasions rapidly replicate pieces of code or application service requests to the point where they overload a system's memo-

Firewalls and intrusion-detection systems (IDS) are typically used to identify unauthorized traffic based on known malicious bit patterns or limited parameters in an IP how for At the same time, sophisticated traffic-management capabilities - available as applances and as sufrware capabilities in network routers - recognize traffic hased on application, protocol, user. media access control address, IP address and other granular variables.

Network implementers are recognizing common ground and the benefits of some integration work. For example, security and thos products already tan common access control lists (At.L) for rules on how to treat trattic And if further integrated, an IDS that discovers abnormal traffic patterns could alert a Qu'y system to treat that traffic accordthe to those rules

The fact that firewalls, IDSs and QoS overlap gives you multiple ways to find and fight infections," says for Walton, a principal at VistaOne I'l Services, a value added nerwork

reseller based in Richmond Vo. Oo's primary purpose is to manage the performance of multiple applications contending for bandwidth on a

converged network link. To do this, OoS products identify what traffic is on the network, then classify and treat it according to the enterprise's network policy. For example, you could tune your network to "always allocate 20Kbit sec.

to Citrix." 'limit streaming-media traffic to 128Kbit sec." and "block all Kazas traffic" to give the various traffic streams their appropriate due

Once you have the power to identify and control traffic this way, you can apply OoS to also detect traffic apon alies, then set policies to automatically mitigate their effects. A firewall is a first line of defense, usually deployed at the WAN edge to permit or done

across bound on ACLs. An IDE monitors packet streams in the background in search of traffic patterns that have already been identified as malicious then alerts you if it finds one

OoS can do a little of each function. while also enabling network forensics and immediate treatment of suspicious traffic, says Walton, "QoS helps you track down where an infection origin

nated within your internal network. Then you can go back and alert that site that they are infecting everybody." Walton explains.

The University of California, Irvine, uses Packetoer Inc.'s PacketShaper OuS appliance in part for this capability. PacketShaper identifies where lan unnaturally large volume of I connections are coming from," says Ted Ro berge, manager of residential network

bandwidth to minimize the impact on network and server resources Larry Roth, vice president of Only-Internet.Net, an Internet service provider in Bluffton, Ind., has used Allot Communications Ltd's Net-Enforcer QoS appliance in a similar manner, to fight viruses, "When Blay ter came out on ITCPI Port 135, we put in rules and regulations for minim traffic that could use that port," explains Roth, who also uses finewalls and IDSs. "We saw an immediate 40% drop in Blaster being spread." Oded Nahum, a senior systems engineer at Allot, says his company's near has been used quite a bit by Internet service providers lately for handling network-aware viruses, *ISPs have

services. "I can block or shape those IP

addresses down to a tiny amount of

Interim Protection

lot of damage" if not checked, he says. OoS products often serve as "interior" defenses until viruses become known, IDSs are programmed to identify them and patches are created and deployed on host systems

such a broad reach, a virus can cause a

Amir Khon, a director of product marketing at Cisco Systems Inc., says, 'QoS plays a major security role here When Kazau (a peer-to-peer file-sharing application! hit enterprise net-

works, for example, it took many days to develop and implement patches. Cisco's Network-Based Application Recognition classification engine however, was able to flag Kazaa. Users

could then decide to give it the lowest priority or drop it. he says, Adding OoS to the security arserol provides another line of defense against network attacks that affect not formance. Meanwhile, further integration will enable OoS and security features to communicate with one another. When a network policy configured using one feature can trigger appropriate corresponding behavior in the other - capabilities likely to become available next year - this integration and automation will enhance and simplify the network administrator's ability to implement policy-based rules to manage network behavior. O 43454

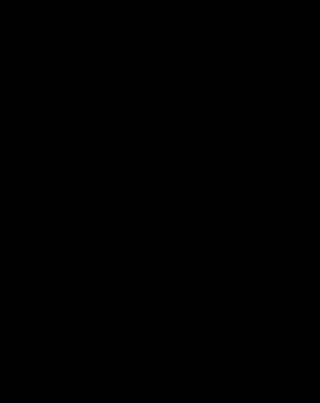
Wexler is a freelance writer in California's Silicon Valley. Contact her at jounicia iwexler.com.

How Can QoS 'See' Encrypted Traffic?

QoS require integration. Otherwise, re-

SECURITY LEXICON QuickLink 43453

A glossary of terms related to security and network



Merging the two technologies gives users multiple lines of defense against network attacks. By Joanie Wexler

Security And QoS Unite

IL RECENTLY, quality-of service and network security technologies lived in separate worlds. But they have some thing important in common. Certain types of attacks on network security affect application performance - and ensuring application perfor-

mance is the main mission of OoS. So the two technology camps have begun joining forces to stave off network attacks that degrade or halt net-

work performance. The enemies at the gate are worms. viruses, Trojan horse programs and denial-of-service attacks. These invasions rapidly replicate pieces of code or application service requests to the point where they overload a system's memo-

ry or CPU. Firewalls and intrusion-detection systems (IDS) are typically used to identify unauthorized traffic based on known malicious bit patterns or limited parameters in an IP beader. At the same time, sophisticated traffic-management capabilities - available as appliances and as software capabilities in network routers - recognize traffic based on application, protocol, user. media access control address. IP address and other granular variables.

Network implementers are recognizing common ground and the benefits of some integration work. For example, security and OoS products already tan on access control lists (ACL) for rules on how to treat traffic. And if forther integrated, an IDS that discovers emal traffic patterns could alert a QoS system to treat that traffic according to those rules.

The fact that firewalls, IDSs and QoS overlap gives you multiple ways to find and fight infections," says loc Walton, a principal at VistaOne IT Services, a value-added network

resulter based in Richmond, Va. QoS's primary purpose is to manage the performance of multiple applications contending for bandwidth on a converged network link. To do this, QoS products identify what traffic is on the network, then classify and treat it according to the enterprise's network policy. For example, you could tune your network to "always allocate 20Kbit/sec. to Citrix," "limit streaming-media traf fic to 128Kbit/sec." and "block all Kazaa

traffic" to give the various traffic streams their appropriate due. Once you have the power to identify and control traffic this way, you can apply OoS to also detect traffic anomalies, then set policies to automatically mitigate their effects. A firewall is a first line of defense, usually deployed at the WAN edge to permit or deny

access based on ACLs. An IDS monitors packet streams in the background in search of traffic patterns that have already been identified as malicious then alerts you if it finds one OoS can do a little of each function while also enabling network forensics and immediate treatment of suspicious

traffic, says Walton. "QoS helps you track down where an infection originated within your internal network Then you can go back and alert that site that they are infecting everybody."

Walton explains The University of California, Irvine. uses Packeteer Inc.'s PacketShaper QoS appliance in part for this canability PacketShaper identifies where [an unnaturally large volume of connections are coming from," says Ted Robetwee manager of residential network

bandwidth to minimize the impact on network and server resources. Larry Roth, vice president of Only-Internet.Net, an Internet service provider in Bluffton, Ind., has used Allot Communications Ltd.'s Net-Enforcer QoS appliance in a similar manner: to fight viruses. "When Blaster came out on [TCP] Port 135, we put in rules and regulations for minimizing traffic that could use that port," explains Roth, who also uses firewalls and IDSs, "We saw an immediate 40% drop in Blaster being spread." Oded Nahum, a senior systems engineer at Allot, says his company's gear has been used quite a bit by Internet service providers lately for handling network-aware viruses. "ISPs have such a broad reach, a virus can cause a lot of damase" if not checked he says

services. "I can block or shape those IP

addresses down to a tiny amount of

Interim Protection

OoS products often serve as "interim" defenses until viruses become known. IDSs are programmed to identify them, and patches are created and deployed on host systems

Amir Khan, a director of product marketine at Cisco Systems Inc. says "QoS plays a major security role bere. When Kazaa [a peer-to-peer file-shar-

ing application) hit enterprise nec works, for example, it took many days to develop and implement patches. Cisco's Network-Based Application Recognition classification engine. however, was able to flag Kazaa. Unors could then decide to give it the lowest

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at journie@jwexler.com.

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BY NOON, THE IT DEPARTMENT WILL BE ALERTED TO 750 DIFFERENT PROBLEMS.

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Business Service Management solutions from BMC Software can They automatically princitize IT management issues according to business importance and aliert you before potential problem can impact performance. They also let you princit IT investments and resource allocations to optimize your business results. So you can solidy align your T investments with strategic business goals. And T investments with strategic business goals. And protect the delivery of vital business services like online translations, sales customer service, logistic and distribution—whatever is most critical to you company's success. It's enterprise management software that works with your existing IT resource to let you manage what matters from a business perspective and execute with procision. Find out how at www buncom/bass10s.

**

bmc**software

Your network is only as secure as your weakest link — which might be your growing population of telecommuters. By Joanie Wexler

Security Begins at Home

tkE IT OR NOT, your corporate network will soon be every-where — maybe even in some employees kitchen or guest bedrooms. It might also reach in airports, beetle and McDonald's. Some users might even access the net-

work from their local commuter trains. Accompanying all this extended access, though, are beightened security risks. How do you mitigate them? First, IT and executive decision-

First, IT and executive decisionmakers must define who should have access to what and set rules that govern user network-connection attempts. Then, IT can implement technology to enforce those rules in an automated fishion.

fishion.

For example, Knowles
Electronics LLC, a maker
Electronics LLC, a maker
ceivers for the hearing
health industry in Brack.
Ill. has a policy to restrict
remote user a access to
servers howing applications

The control of th

they actually need. www.comp
"We got hit with the
Blaster worm when a home user
tapped into a machine he didn't really
require access to," explains Rich Dase.

technology director.

For its international mobile workforce of about 200, Knowless uses services provided by Fiberlink Communications Copy, which installs virtual
private network (VPA) encryption
software on user devices and
virus software on user devices and
centrally enforces security policies for
the company, Knowles sets its own
rules dictating the conditions under

which users can connect.

"The policy might be that devices on dini-up connections must have a personal firewall configured a certain way and updated within the past three."

days," says Dase. "If Fiberlink doesn't discover those conditions when a user tries to connect, it rejects the scores."

Protect Data in Transit

protect data on a public network, says Dave Passmore, research director at Bartoo Group in Midrale, Utah. IPsec and browser-based Secure Sockets Layer (SSL) are the primary encryption technologies for avoiding data theft by eavesdropping, or "sniffing."

"SSL is clientless, so it is coming on strong. It also works great through NAT (Network Address Translation) routers, which, increasingly, employees are using at home," notes Passmore. NAT translates private IP

addresses into a single, globally unique IP address for routing across the public Internet. Passmore recommends NAT-enabled routers for telecommuters to mask their home com-

to mask their home computers 'IP addresses from viruses and addressspoofers lurking oo the Internet. LandAmerica Financial Group Inc.

in Richmond, Va., uses both SSI, and in Richmond, Va., uses both SSI, and in Pleec for its remote workforce. "Using SSI. a home user only needs access to the Internet and a Web browser," explains Matt Main, a security and systems engineer at LandAmerica. "IPsee requires special client software, but its strength is that it also works with non-web-based arollications."

Avoid Internet Infections An oft-cited security challenge is the

risk that remote devices will pick up viruses and worms from the Internet and then infect the corporate network Dase says his company is "trying to be more aggressive" about patching host software with vulnerability fixes as they become available.

as they become available. Keeping up with patches is a must, but it can be a challenge. So host-based intrusion-prevention software and network intrusion-detection systems can work at corporate sites in the interim to ferret out unusual protocol behav-

Data Selfons Self-leg puty — in

barra a

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Arm company

iors and known malicious bit patterns. In addition, "Truly paramoid people do on allow split tunnels for bome users," says Passoners. Split tunneling irrolvers a single home-user connection supporting both an encrypted tunnel for cupporten enteror access and an unencrypted direct link to the public laternet. A most secure alternative sould all remote-user internet.

mist through the corporate network. But it can be costly to backhaul all traffic through the enterprise site. And the corporate firewall will need greater processing capabilities. Passmore warns companies that allow split tunneling to make sare that

the bome computer has antivirus software and that it's up to date.

"Remote polling for this purpose is now a major part of the oetwork manager's job," he says.

Get Back to Basics

Enterprise use of effective password in protection is crucial — but worfully scarce, "even though it's been 20 years ince the movie War Gamee," says Lance Hayden, a manager in the Adviser of the protection of t

in a military computer system.
Even though people seem to understand the need for password protection, "we continue to see remote access servers with no passwords or poor passwords that are easily supersed." says Howten.

And user education about the imortance of security and the basics of

portance of security and the basics of how to use it goes a long way. Consider the notorious former Mor gan Stanley executive who sold his BlackBerry device containing confidential information for \$15.50 on eBay last summer. Cluting him in that

removing the battery from the device wouldn't crase the data might have prevented the blunder. In addition, implementing power-on passwords and encrypting any executive's stored confidential data so that it

isn't comprehensible to anyone who inherits, steals, finds or — in this case — buys the device are good ideas. • 43452

© 43452 Wexler is a freelance writer in Cali-

Wexler is a freelance writer in Califormia's Silicon Valley. Contact her at joanic@jwexler.com.

The Almanac

An eclectic collection of research and resources. By Mitch Betts



Windows ATMs Raise Concerns

Diebold Inc.'s recent revelation that automated teller machines operated by two of its banking customers were struck by the W32/Nachi worm highlights a growing security concern about the move to Windows-based cash machines.

The outbreak of Nachi, also known as Welchia, required the unnamed banks to take down and patch infected ATMs before they could be safely brought back online, says Jim Merrell. director of global product marketing at North Canton, Ohio-based Diebold, a leading ATM manufacturer.

The security problems on ATM ortworks come at a time when many banks worldwide are migrating from an older neration of machines that used IRM's OS/2 operating system to Windows machines. The mass migration has been spurred by a number of factors, including IBM's decision to stop supporting OS/2 by 2006 and pressure from ATM vendors, says Ann All, the editor of ATMmarketplace.com, an online publi-

The advantages of Windows ATMs include built-in support for HTML and XML, as well as the fact that banks can create a consistent look and feel between home banking applications and ATMs. But security analysts predict that the move to Windows will almost certainly result in more disruptions from worms, viruses and hackers, be-

presents more avenues for exploitation. "The general-purpose operating system does everything. Unfortunately that also means there's more bad stuff that could run on the computer," says Bruce Schneier, chief technology officer at Counterpane Internet Security Inc. in Mountain View Calif

often uperaded via "eneaker net" with technicians physically visiting each machine for mainten Diebold and other ATM vendors say they're "hardening" the installations of

Windows they ship with their ATMs by disabling unnecessary services and ports and removing files that support peripherals. In November, Diebold and Sygate Inc. appounced that Diebold ATMs will be outfitted with Sygate's Grenzall cofemore

But some vendors see ATM security as largely an internal IT problem. "When customers ask me Jahout ATM security), I tell them to talk to their

treat their ATM like other devices on their network and protect it," says Kent Schrock, director of marketing at ATM

vendor Fujitsu Transaction Solutions Inc., a division of Fujitsu Ltd. - Paul Roberts, IDG News Service

Patent Watch

" A system for monitoring the reliability of networking equipment in the field. This "field availability monitor ing system" is attached to switches and routers that have been installed at customer sites and sends an e-mail to the vendor whenever components fail or have a problem. The e-mail is reason. formed into a trouble log that can be analyzed for ways to prevent recurring problems. - U.S. Patent No. 6,665,822,

issued Dec. 16, 2003 Adam Michael Conway, at Cisco Systems Inc.

Digital Archives

50 YEARS AGO: Western Electric's No. 28 tele-

typewriter becomes commercially sweilsble · The Bell System puts a hands-free

Speakerphone into limited production. AT&T offers a long-distance "Integrated Data Processing" service. Data from punched cards in Cincinnati is fed into a computer in

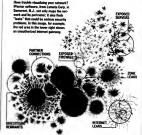
New York

A new AT&T Corp. and the seven Bell operating companies begin operations as separate entities after the AT&T divestiture. O 43734

ORE RESOURCES

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Finding the Leaks



KNOWLEDGE CENTER NETWORKING

Your network is only as secure as your weakest link which might be your growing population of telecommuters. B. John Weyler

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Protect Data in Transit

The CM Control No.

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www.computerworld.com

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artists not desir wall pickup 100 to 500 of the corporate network The state of the s host convers with control on these

Telecommuting Security Gaps

RISK. Date theft by HOW TO FIGHT IT = Encrypt data in RISK Data theft by

SK. Data theft by stolen or

lost computing device.

RISK Worms, viruses and Trojan horse programs picked up from the Internet, then spread from remote devices to the corporate ne

links through the corporate network

Get Back to Basics Extrator isolatebolic cosmolo

Consider the notorious former Mor

eBry last sunneer 4 loang ham in rica tive's stored confidential data so that it

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The Almanac

An eclectic collection of research and resources, By Mitch Betts



Windows ATMs Raise Concerns

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But some vendors see AIM secural so more L. Lts. II them to talk to their

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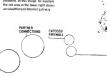
Digital Archives

Patent Watch

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Finding the Leaks

Psonar software, from Lumeta Corp. in Somerset N.J., not only maps the network and its necessator it also fauls leaks" that could be sensors security problems. In this image, for example the red area in the lower right shows



Phishing

Phishing is a technique used to gain personal information for purposes of identity theft, using fraudulent e-mail messages that appear to come from legitimate businesses. These authentic-looking messages are designed to fool recipients into divulging personal data such as account numbers and passwords, credit card numbers and Social Security numbers.

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The Phishing Lure Her same simple of load

Your many o'Bay his cars looke I just like eBay's home

Even before physhing became

URL It's case to disguise a look to take Beware of the a som responsal company com a

The Origins Of Phishing

The word phehing was coined around 1996 by hackers steel ing America Online accounts and passwords. By analogy with the sport of angling, these Internel scammars were using e-mail fures, setting out hooks to "fish" for passwords and financial data from the "sea" of internel users. They knew that although most cover wouldn't take the best, a few likely would. The term was menlioned on the all 2600 backet newsanaua in Jerusey 1996. but it may have been used ear lie in the pirtl journal 2600.

The Hacker Quarterly. Hackers commonly replace the letter f with ph. a rod to the ongral form of backing known as phone phreaking Phreaking war coined by John Deseraka Captain Crunch, who orealed the inferrous Blue Box that emitted audible tones for hacking telephone systems in the early 1970s

By 1996, hacked account: vere called phish, and by 1997 phish were been traded among backers as a form of currency - people would say line's trade 10 working AQL ohish for a piece of hacking

software Adjusted Intermediated at www.antiphishipa.org

curse URI's include substitut me similar looking characters

for Mass Contact how as

ADDITIONAL RESOURCES

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Computerworld reminischaladas

Preventing Phishing Expeditions

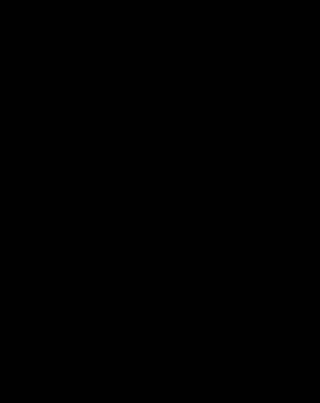
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tions Corp., most major banks

Cutting the Line

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address Other was to dis-



Phishing

DEFINITION Phishing is a technique used to gain personal information for purposes of identity theft, using fraudulent e-mail messages that appear to come from legitimate businesses. These authentic-looking messages are designed to fool recipients into divulging personal data such as account numbers and passwords, credit card numbers and Social Security numbers.

WILL KAY

N SHAKESPEARE'S Othello lago says, "But he that filches from me my good name/Robs me of that which not enriches him/And makes me poor indeed." Unfortunately, technology and our ever-more-connected society now contradict the first assertion of that statestealing another's good name can enrich the

thief considerably. Identity theft is the name of the game. If someone can get vital authentication information, that person may be able to access another's bank accounts, charge accounts or credit information. In 1998, Congress passed the Identity Theft and Assumption Determence Act which made identity theft a federal crime subject to as many as 15 years in prison. Still, identity theft flourishes. and one easy and increasingly

popular way of capturing personal data is called phishing. Phishing isn't really new it's a type of scam that has been around for years and in fact predates computers. Malicious crackers did it over the phone for years and called it social engineering. What is new is its contemporary deliery vehicle - spam and faked Web pages.

carding or brand spoofing) uses e-mail messages that purport to come from legitimate businesses that one might have dealings with - banks such as Citibank; online organizations such as effay and PayPal: Internet service providers such as AOL, MSN. Yaboo and EarthLink: online

retailers such as Best Buy; and insurance agencies. The messaces may look quite authentic, featuring

corporate logos and formats similar to the ones used for legitimate messages. Typically, they ask for verification of certain information, such as account numbers and passwords, alleardly for auditing purposes And because these e-m look so official, up to 20% of

unsuspecting recipients may respond to them, resulting in financial losses, identity theft and other fraudulent activity against them

The Phishing Lure Here's an example of how

phishing works. On Nov. 17, 2003, many eBay Inc. customers received e-mail norifi-

cations that their accounts had been compromised and were being restricted. In the mer sage was a hyperlink to what appeared to be an ellar Web page where they could reregister. The top of the page looked just like eBay's born page and incorporated all the eBay internal links. To reregister, the customers were told, they had to provide credit card data, ATM personal identification numbers. Social

Security number, date of birth and their mother's maiden name. The problem was eBay hadn't sent the original e-mail. and the Web page didn't belong to eBay - it was a prime example of phishing In September 2003, the Federal Trade Commission reported that 9.9 million U.S. residents have been victims of identify theft during the past

lioo and consumers \$5 billion in out-of-pocket expenses. In an online interview in July with The Washington Post, I. Howard Beales, director of the FTC's Bureau of Consu Protection, said ID theft is the No. 1 complaint his organizatico receives, accounting for 43% of calls

According to the Anti-Phishing Working Group, an industry organization started by Redwood City, Calif.-based

Tumbleweed Commu tions Corp., most major banks in the U.S., the U.K. and Australia have been misrepresented to customers during phishing attacks.

Cutting the Line Even before phishing became so prevalent, legitimate busi-

nesses and financial institutions would hardly ever ask for personal information via e-mail. If you receive such a request, call the organization and ask if it's legitimate or check its legitimate Web site Look for misspellings and bad grammar. While an occasional typo can slip by any organization, more than one is a ip-off to beware.

If the e-mail refers you to a veb site, look carefully at the URL. It's easy to disguise a link to a site. Beware of the @ symbol in a URL Most browsers will ignore all characters preceding the @ symbol, so this Web address - http://www. respectedcompany.com@ isisuscam.com - may look to the unsuspecting user like a page of Respected Company's tite. But it actually takes visitors to thisispronm com The longer the URL, the easier it is to conceal the true destination address. Other ways to dis-

year, costing businesses and financial institutions \$48 bil-

guise URLs include substituting similar-looking characters so that paypal.com could be (and has been) spoofed as pay pal.com or paypal.com. Similarly, a zero can be substituted for the letter O within a LIRI O 43834

Kay is a Computerworld contributing writer in Worces ter, Mass. Contact him at russkav@charter.net

DOTTOKAL RESOURCES for links to more information and anti-phishing organizations, visit our Web site

Are there technologies or issues you'd like to learn about in QuickStudy? Send your deas to quickstudy/incomputerworld.com To find a complete arction of or

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Complete a survey for your company today at www.computerworld.com/bestplaces05.
The deadline for all surveys is Friday, January 30, 2004, at 5 p.m. EDT.

For more infermation, go to www.computerworld.com/services/research/besiplaces



4:45PM SARAH VISITS DAD'S OFFICE 5:05PM SARAH DOWNLOADS looks like any other, but is in fact corrupt —can create a costly security breach that can take

productive employees? A network with integrated security can detect and contain potential threats before they become actual ones. Whether they're worms, hackers or even well-meaning humans. Security that's about prevention. Not reaction, Visit osco com/security/now to learn more. SELF-DEFENDING NETWORKS PROTECT AGAINST HUMAN NATURE.

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Spending Plans

The top five types of perposition

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Would you consider human ccarity products from Afternood?

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MARK HALL

Sticky Security

HE JOY OF WATCHING the old Mission: Impossible TV shows was in following the team of super secret agents as they laid a trap for the bad guy. The evil one inevitably succumbed to the lure set by the heroes through his greed or hubris, usually the latter That's the sort of thing that can happen with an increasingly popular net-

work security technology called a honeypot. Although there are many types of honeypots, they all have the same purpose: to attract sophisticated black-hat hackers, malicious script kiddies and, more often than we care to admit, disgruntled internal employees into a highly protected system that emulates a production environment.

Once the bad guy enters a honeypot, his actions can be monstored, letting you know what kind of attack is immment or under way. A honeypot can even be used to help trace an intruder back to his home base and maybe catch him red-banded, though that's seldom the goal. The way a honeypot works is simple. You set up a

server inside your firewall with software that can emulate everything from simple e-mail or file transfer protocol functions to a full-fledged operating system ning a production database The trick is that none of your internal traffic is linked

to the server. The honeypot is isolated from everything else. Absolutely no users are directed to it. So, by definition, anyone pinging, probing or prowling around the honeypot either typed in the IP address by accident or far more likely, is up to no good. "A honeypot is like a mousetrap," says

Ryan Barnett, a senior security engineer at RS Information Systems Inc. in McLean, Va. Anything you catch in it is a problem Intrusion-detection systems, the security cousin to honeypots, which defend production servers against digital marauders, generate so much information about potential. real and, annoyingly, false problems that it's often difficult to sift through everything to see what had things are going on. Ausment-

ing an IDS with a honeypot would give you details about the nature of an attack and the best way to defend against it This is particularly true when a zero-day virus hits your network. Tracking its nasty actions un production systems can be time-consuming, because you need to filter out other activity. But in a honeypot, there's nothing else to track, so you'll know how the virus is wreakang havoc and more quickly learn how to squelch it

There are drawbacks. First, just because you have a honeypot doesn't mean that a cracker will dip into it. Attacks could be happening elsewhere on your network, leaving your honeypot untouched because its IP address wasn't discovered and backed. That's why you still need your IDS

Another problem, of course, is the cost - not necessarily the price of the software, because some of it is

free, or the hardware, which can be a simple Pentium machine, but in the manpower required to set it up. Building a high-interaction honeypot, which can emulate a complete network with multiple operating systems faking elaborate production operations, involves significant overhead.

There's also a bit of risk. If you go with a high-inter action system and overlook a detail or two in setting it up, you can actually give the intruder too much reality

and allow him to slip onto your production network. That's why Symantee's John Harrison, who has written about honeypots for Computerworld com (Quick-Link 42900), advises users with high-interaction hop-

cypots to set up their systems so that they immediately shut down when an attacker's activity reaches a certain threshold.

Then there's the legal quagonire. If you're watching an attack that involves moving packets in and out of your honeypot from innocent computers that have been hijacked and you look inside the data or payload of the packets, you might be violating privacy laws. There are no legal precedents here, so it's wise to establish and publish policies that tell the world that it is your standard procedure to sniff pack-

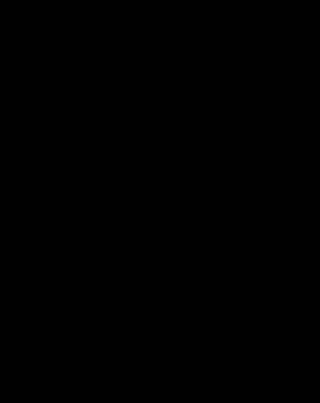
Some critics also suggest that a sophisticated black-hat backer won't fall prey to a honeypot. They argue that you'll eatch only script kid-

dies and internal malcontents. Perhaps. But thwarting either of those types of invoders is hardly a bad thing. For the vast majority of users, low-interaction honcypots are the best approach. The investment and the risks involved with high-interaction honeypots are too high, especially since you may not nob the most malicious prey. But the payback for lose interaction sys-

tems is well worth in As more honeypots get deployed, intruders will have to wonder whether they have actually backed something useful or are fruitlessly powing inside a honeypot. That itself can be a deterrent. Like knowing that the Impossible Mission Force is out there, ready to spring its trap

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SNAPSHOTS

Spending Plans

The top five types of networking investments planned for the next 12 months:

Debterior

Size Plane intrivious with 200 IT decision trainers.

Microsoft? Security?

Would you consider buying security products from Microsofti

Yes: 44^alo No: 56^alo

Base Survey of 100 COs. SALMACE BOLDWAY SACHS & CO. MCW YORK, MCH. MORE 2003

E-mail Overhead

The average amount of time at clerical users spend per week on the following e-mail tasks:



MARK HALL

Sticky Security

HE JOY OF WATCHING the old Mission: Impossible TV shows was in following the team of super secret agents as they laid a trap for the bad guy. The evil one inevitably succumbed to the lure set by the heroes through his greed or hubris, usually the latter.

That's the sort of thing that can happen with an increasingly popular network security technology called a honeypot. Although there are many types of honeypots, they all have the same purpose: to attract sophisticated black-that hackers, malicious script kiddies and, more often than we care to admit, disgruntled internal employees into a highly protected system that emulates a production environment.

Once the bad guy enters a honeypot, his actions can be monitored, letting you know what kind of attack is imminent or under way. A honeypot can even be used to help trace an intruder back to his home base and maybe catch him red-handed, though that's seldom the goal.

The way a honeypot works is simple. You set up a server inside your firewall with software that can emulate everything from simple e-mail or file transfer protocol functions to a full-fledged operating system running a production database.

The trick is that none of your internal traffic is linked to the server. The boneypot is isolated from everything else. Absolutely no users are directed to it. So, by definition, anyone pinging, probing or prowling around the honeypot either typed in the IP address by

accident or, far more likely, is up to no good.

"A honeypot is like a mousetrap," says
Ryan Barnett, a senior security enginer at
RS Information Systems Inc. in McLean, Va.
"Anything you catch in it is a problem."
Intrusion-detection systems, the security
counts to honeypots, which defend produc-

tion servers against digital maranders, generate so much information about potential, real and, annoyingly, false problems that it's often difficult to sift through everything to see what bad things are going on. Augmenting an IDS with a honeypot would give you details about the nature of an attack and the best way to defend against it.

This is particularly true when a zero-day virus hits your network. Tracking its nasty actions on production systems can be time-consuming, because you need to filter out other activity. But in a honeypot, there's nothing else to track, so you'll know how the virus is wreaking harvo; and more quickly learn how to squelch it.

There are drawbucks. First, just because you have a honeypot doesn't mean that a cracker will dip into it. Attacks could be happening elsewhere on your network, leaving your honeypot untouched because its IP address want it discovered and hacked. That's why you still need your IDS. Another problem, of course, is the cost — not necessance.

sarily the price of the software, because some of it is

free, or the hardware, which can be a simple Pentium machine, but in the manpower required to set it up. Building a high-interaction honeypot, which can emulate a complete network with multiple operating systems faking claborate production operations, impayers

significant overhead.

There's also a bit of risk. If you go with a high-interaction system and overlook a detail or two in setting it up, you can actually give the intruder tno much reality

up, you can actuaty give the intruder too much reality and allow him to slip onto your production network. That's why Symantee's John Harrison, who has written about honeypost for Computerworld.com (Quick-Link 42901, advises users with high-interaction honeypost to set up their systems so that they immediate-

ly shut down when an attacker's activity reaches a certain threshold. Then there's the legal quagmire. If

you're watching an attack that involves moring packes in and out of your honeypor from innocen computers that have been hijacted and you look inside the data or payload of the packets, you neight be yiolating privacy laws. There are no legal precedents here, so it's wise to establish and publish policies that tell we world that it is your standard procedure to sniff packets on the nearly procedure to sniff packets on the nearly procedure to sniff pack-

Some critics also suggest that a sophisticated black-hat hacker wou't fall prey to a honeypot. They argue that you'll catch only script kiddies and internal malcontents. Perhaps. But thwarting.

either of those types of invaders is hardly a bad thing. For the vast majority of users, low-interaction hosypots are the best approach. The investment and the risks involved with high-interaction honeypots are too high, especially since you may not mab the most malicious prey. But the payback for low-interaction sys-

tems is well worth it.

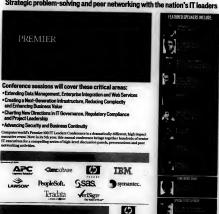
As more honeypots get deployed, intruders will have
to wonder whether they have actually backed something
useful or are fruitlessly pawing inside a honeypot. That
itself can be a deterrent. Like knowing that the impossible Mission Force is out there, ready to spring its tran-

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Diversity in IT: Professional Groups Set Goals

Whether it's a job outlook report, survey of employers of choice or annual leadership agenda. the goals for diversity in the information technology ornlesson are similar What differs is the context - the cultural issues and situations that confront people considered "diverse" when they seek education and careers in IT

For instance, if you ask the Black Data Processing Association, American Indian Science and Engineer Society and Society of Hispanic Professional Engineers who the top employer is, the answer is

the same IBM The reasons wary by the more definition of diversity "IBM is at the cutting edge in terms of recruiting and professional development for American Indians," says Teresa Gernez, acting executive director for AISES. She points to specific programs, including the Jan 12 recruiting event IBM hosted at Santa Ana Pueblo in New Mexico. It doesn't hurt that IBM has leading executives who are Black, who are American Indian and who are Hispanic

Raul Cosio, chair of the Hispanic Diversity Task Force at IBM since it formed in the mid-1990s, says the company's record has emproved over the past decade, but more remains to be done IRM as a predecessor company, hard its first women and African-American in the Lite 1800s, so the foundation has been in place. "In the past decade, the number of Hispanic employees has grown by 50%. More importantly, when you look at the serior leaders and executives, the number of Hispanics has grown by better than 100%."

While IBM views such diversity as a business mousture Cosm is an example of how the system works. Now the head of the aerospace & defense practice for IBM. Cosio spent two assignments in Latin America. "While that was helpful in working with employees, it was entical in working with customers." Cose says

In addition to building relationships with Hispanicoriented universities - such as University of Texas-El Paso. University of Puerto Rico and Florida International

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University in Miams - the company has aligned executives as partners with Hispanic organizations that include the Society of Hispanic Professional Engineers and the National Society of Hispanic MBAs. Cosio points to a cross level of Hispanic high school dropouts as the reason for extended family and K-12 programs, such as La Familia Technology (supported by the information Technology Association of America, SHPE, IBM and other corporations to link Hispanic families to technology for assistance in life and education) and more than 3,000 IBM employees who serve as mentors for kids and they teachers

Milton Haynes, outgoing president of BDPA, says his group has set as its goal to increase the number of Black IT professionals, and to increase the number of BDPA members from 3,000 to 25,000 by 2006. Currently, there are 300,000 African-Americans employed as software developers, business analysts, testers, project managers and IT executives/consultants BDPA's top three objectives are to held and strengthen the mercety community's proficiency and effective application of information

technology, to affect a just level of minority participation at all levels of the IT inclustry's employment and business opportunities, and to become a can powerful voice that represents the interest of minorities in the IT industry

ARSES too has growth as an agenda With 3,000 members AISES proorts that 1% of the country's science and engineering workforce is American Indian. The goals are quite different, as

the organization seeks sustainability, growth of professional development programs, and extension of technology into the mostly rural communities. "Culturally, we are brought up to return to and give to our communities," Gamer says, "That makes it difficult for

those in science and engineering professions. For more information about IT Careers advertising. please contact: Nancy Percival Vice President, Recruitment Advertising

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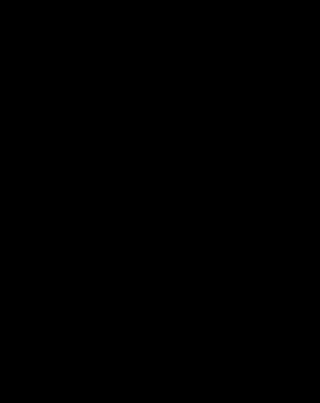
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For instance, if you ask the Black Data Processing Association, American Indian Science and Engineering Society and Society of Hispanic Professional Engineers who the top employer is, the answer is the same: IBM. The reasons vary by the mere definition of diversity "IBM is at the cutting edge in terms of recruiting and professional development for American Indians," says Toresa Gomez, acting executive director for AISES. She points to specific programs, including the Jan. 12 recruiting event IBM hosted at Santa Ana Pueblo in New Mexico. It doesn't hurt that IBM has leading executives who

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Marylhan Johnson, editor in chief

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PRETIDENCIAL
DESTRUCTION OF A PRETID ***

Continued from page I Merrill Lynch

But the idea is to add a layer of abstraction that creates one logical storage fabric, with numerous virtual SANs dedicated to individual business units.

That would let the business units share storage resources but not have one SAN that's Myrick said. In addition, storage administrators could make changes to one of the logical zones in the SAN infrastructure without affecting the per formance and reliability of the

others, he said. Colin Gibson, who's in charge of infrastructure and data services at Merrill Lynch. said the storage pooling enabled by the virtualization plan

could also belp ensure that the company's disk arrays aren't sitting idly if users don't need the full capacity assigned to them. "We run at a high utilization rate now, but we could run even higher." Gibson said. "We want to consistently be at 90%. That's a good number to be at, because it doesn't allow assets on the floor to remain unused."

Myrick and Gibson said plans for the SAN virtualization project likely will be so lidified by year's end. They declined to comment on the expected cost, other than to say it would run into the mil lione of Adlore

Data security concerns will be a high priority, they noted. Merrill Lynch currently has 500TB of storage capacity spread across 16 SANs at several data centers in the New

Correction

The test name of John Mr. ty CIO for the city of Oriena and a member of the Quest uses at Odds With J.D. Edwards Use

York/New Jersey region. Once the SANs can share data through the switches, business units will have to be restricted from seeing one another's data. "We'll be very selective

with the [data] we're putting across the virtual SAN." Merrill Lynch is "for about" of most users in addressing SAN consolidation, said Steve Duplessie, an analyst at Enterprise Storom Grown Inc. in Milford Marc But he added many large companies are running into the same prob-

lems that Merrill Lynch is -

installed is growing out of

the number of SANs they have

control, and performance and resource utilization rates are

taking a hit. Twenty years ago, you had the same problem with LANs Duplessie said. "You had all these little workgroup LANs that needed to be combined."

Now he added, IT managers "need one big SAN that they can manage as microscopically as they can, as opposed to a bunch of little SANs Merrill Lynch primarily

uses director-class storage switches made by Brocade Communications Systems Inc. and Myrick said he would like to stick with the San Jose hased vendor. But Brocade has yet to build an intelligent switch that supports data rout ing between servers on differ-

ent SANs. That's one reason Merrill Lynch is biding igs time, Myrick said, Funding issucs are another "We're really looking tu

vendors to supply us with so lutions that will be reliable. fault-tolerant and resilient and will work on the scale we need

them to work " Myrick said Merrill Lynch is also explor ing the idea of deploying information life-cycle manage ment tools I litimately Musick said he would like to be able to have systems fail-over be tween the company's two

main data centers so that both can function as disaster recovcry sites. O 44125

MORE THIS ISSUE

These case shades show from a underly were downtime and save money with a

Faster Storage Devices Coming, but Not for All

Server bottlenecks could limit Fibre Channel performance for some users

VARIETY OF STORAGE vendors are testine products that could double the through put of Fibre Channel storagearea networks (SAN) and network-attached storage (NAS) devices from the current 2Gbit/sec. rate

The faster 4Gbit/sec. stan dard was approved in lunc by the Fibre Channel Industry Association, but vendors waited to develop the technology because of a slumping market. Now makers of Fibre Channel host bus adapters (HBA). switches and disk drives say that devices adherine to the new standard are on the hori-

zon and will cost roughly the same as or a little more than 2Gbit/sec. hardware. Some vendors are also looking to release products with 10Gbit/sec. capabilities. But some IT managers last week

said they may not be able to benefit from the Fibre Channel performance boosts at this t because of server and tape drive I/O bottlenecks. Gary Pilafas, senior storage and systems architect at \$1A1

Loyalty Services Inc. in Arlington Heights, Ill., said that even if 4Gbit/sec. products cost no more than his existing ones, he's wary about installing them on his SAN. The application servers that the United Air Lines Inc. subsidiary backs up across its Fibre Channel network couldn't take advantage of the faster network speeds, said Pilafas,

You'd saturate your (serv er] host bus long before you'd saturate a 1- or 2Gbit connec tion," Pilafas said, UAL could use the speedier throughput only if he connected its Hi tachi Data Systems Corp. disk arrays directly to its Storage Technology Corp. tape library.

he added, But Storage Tek has yet to announce support for 4Gbit/sec. Fibre Channel. Another IT manager who

works at a large Midwestern insurance company and asked not to be identified, also said that replacing 2Gbit/sec. Fibre Channel equipment with 4Gbit/sec. devices isn't an attractive option now. "If a tape drive can only produce 20MB/

sec, throughout, doubling the speed of the Fibre Channel UPCOMING PRODUCTS BROCADE: Placs to begin

testing 46bit/sec. and 106i sec, switches with makers of storage devices in 2005 McDATA: Is developing 48bit - firector-class aw

for release in 2005. VANCED DISTAL INFOR MATION CORP.: Will beam often no tane libraries with 46bits sec. technology by year's end QLOGIC CORP.: Expects by

mrdyear to ship 40bit/sec HSAs, this switches supporter that cale as well as 10Gbit (sec

port the tape drive is connected to doesn't increase the throughout " he said

Steve Kenniston, an analyst at Enterprise Storage Group Inc. in Milford, Mass., said the move from 2Gbit/sec. Fibre Channel to 4Gbit/sec. is comparable to the jump from Intel Corp.'s Pentium III processors to the Pentium 4 line. Migrating to lOGbit sec. products would be "a quantum lear" for users, be added.

San Jose-based Hitachi Global Storage Technologies Inc. this month announced plans to begin joint testing of 4Gbit/sec. disk drives with storage vendors and added that it expects those devices to be generally available by 2005.

Vendors such as Brocade Communications Systems Inc. and McData Corp. have said they plan to offer devices supporting the faster speeds later this year or in 2005 (see box). However some companies remain cautious about supporting the new technology.

For example, a spokesman for Osco Systems Inc. said in has no immediate plans to support 4Gbit Fibre Channel in its SAN switch portfolio. He added that Cisco could add 4Gbit/sec, capabilities "if strong market demand re

quires us to do so." O 44043

FRANK HAYES . FRANKLY SPEAKING

Save the Coders

F YOU HAD ANY DOUBTS about the effects of offshoring on IT pay, you can stop doubting. According to a January report from Foote Partners, the bonuses that programmers once received for specialized knowledge are evaporating - off 25% over the past two years and still sinking. Yes, things are tough all over, but the numbers for application development are much worse than the average for IT specialties - and the app dev falloff coincides with the uptick in offshore outsourcing of many software projects. For programmers, it's starting to look like the end for big paydays - and maybe for any paydays at all.

Of course, but IT specialties come and so The Foote Partners survey says bonuses are going up for skills in Linux, WebSphere, Gigabit Ethernet, voice over IP and XML, Security and project management look strong too For IT workers who want to chase a new specialty that's on the rise, those are the categories

where training and certification will pay off. But not programming. Not even specialties like rapid application development and extreme programming, which have been hot stuff in recent years. Now they're cooling off, according to the Foote survey

It's a matter of supply and demand. There are lots of programmers out there - and with offshoring, "out there" gets bigger every day. With that much supply, programming skills can't command the extra money they once did. They're a commodity, and they're likely to keep getting cheaper.

If you're a programmer, that should make you worried

If you're an IT manager, you should be worried, too. On the one hand, you can't afford to keep a lot of expensive commudity programmers on staff. On the other, some of those programmers know your systems and your business - intimately.

And that knowledge can make a huge difference in the business value your IT shop can deliver, it's an asset you can ill afford to lose. But as long as you keep defining what those programmers do in terms of purely technical skills. there's no business justification for

keeping them around. That means it's time to start redefining your programmers

Not just renaming them all as "analysts," or prettying up their job de-

scriptions with businessy jargon. But actually redefining what they do in the context of your business organization

You can't afford programmers who are just good at writing code. What you want your newgrammers to do is to understand your business processes - and how to use software to automate, streamline and even revolutionize those

Nothing commodity about that, is there? It's specific to your business organization, and it's right in line with the FT department's core value proposition of using technology to help the business run better. It's the high-value part of

You can afford to keep programmers like that. In fact, you can't afford not to keep them. Will that redefinition of the programmer's

job leave more than a few of your programmers behind? Sure. Some will lack the ability to think in business terms. Others simply won't want to - they just love coding and aren't interested in business processes. You'll lose those people You were bound to lose them anyway, as their work turned into a commodity

But the ones who make the cut will be perfeetly positioned to let your IT shop deliver real value to your company - and make the business

more efficient and effective. And they'll serve as the model for how you'll deal with the next wave of technology that gets commoditized and offshored - and how you can turn the next group of pure techies you can't afford to keep into business technologists

you can't afford to lose. And on payday, you and your IT staffers will have a lot less reason to be worried. @ 44062

That Should Speed Things Up

Newly hired programmer pilot fish at this small iner co-worker. Not only does the co-I hours; he often doesn't show up for work at all. Result: Co-worker has a project that lo like it will take twice as long as it should to comple y is he allowed to get away with this? b s boss. The's not," boss says. Two told him that as soon as he's finished with the project he's wor

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